# REPORT RESUMES

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IMPROVING VOCATIONAL-TECHNICAL EDUCATION IN THE TOP C
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SIX COUNTIES IN THE NORTHERN PART OF THE LOWER PENINSULA OF MICHIGAN WERE STUDIED TO DETERMINE NEEDED VOCATIONAL AND TECHNICAL EDUCATION PROGRAMS, AND TO PROPOSE A FEASIBLE PLAN FOR THESE PROGRAMS. A TEAM OF RESEARCHERS COLLECTED DATA THROUGH SURVEYS, INTERVIEWS, GROUP MEETINGS, AND INSPECTION OF FACILITIES AND EQUIPMENT. TABLES AND DATA SHOW--(1) CLASSIFICATION OF SAMPLE OCCUPATIONS, (2) POPULATION CHANGE, (3) SECONDARY ENROLLMENTS BY GRADE LEVEL, 1964-65, (4) EMPLOYED WORKERS BY MAJOR OCCUPATIONS, (5) OCCUPATIONAL INTERESTS OF 11TH GRADERS AND THEIR PARENTS, (6) RESIDENCE OF HIGH SCHOOL GRADUATES AND DROPOUTS 2 YEARS AFTER GRADUATION, AND (7) PRESENT AND PROPOSED PROGRAMS OF DISTRIBUTIVE EDUCATION, HOME ECONOMICS EDUCATION, INDUSTRIAL EDUCATION, AND EDUCATION FOR OFFICE AND AGRICULTURAL OCCUPATIONS. THE INVESTIGATOR RECOMMENDED THAT (1) THE TWO INTERMEDIATE SCHOOL DISTRICTS SHOULD ESTABLISH THREE AREA VOCATIONAL SCHOOLS, (2) THE INTERMEDIATE DISTRICTS SHOULD CREATE AN OCCUPATIONAL COUNSELING PROGRAM FOR ADULTS, (3) SCHOOL DISTRICTS WITH ENROLLMENT UNDER 300 SHOULD NOT OPERATE VOCATIONAL PROGRAMS, BUT SHOULD UTILIZE THE SHARED-TIME PROGRAM WITH THE AREA VOCATIONAL SCHOOL, AND (4) NORTH CENTRAL MICHIGAN COLLEGE SHOULD DEVELOP DEGREE-LEVEL TECHNICAL AND SUBPROFESSIONAL CURRICULUMS THROUGH FORMATION OF A DIVISION OF TECHNICAL EDUCATION. (PS)

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# Improving Vocational-Technical Education in the Top O' Michigan Area

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College of Education
Michigan State University
East Lansing, Michigan

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# Improving Vocational-Technical Education in the Top-O'-Michigan Area

A Study by the Vocational Teacher Education Service
College of Education, Michigan State University

(Under Private Contract with North Central Michigan College)

Bureau of Educational Research Services
College of Education
Michigan State University
East Lansing, Michigan

# IMPROVING VOCATIONAL-TECHNICAL EDUCATION IN THE TOP-O-MICHIGAN AREA

## A Research Study to Determine the Feasibility of Establishing One or More Area Vocational Schools and Technical Institutes in the Top-O-Michigan Area

by the

Vocational Teacher Education Service
College of Education
Michigan State University

under private contract with

North Central Michigan College
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College of Education
Michigan State University
East Lansing, Michigan

October 1965

# FOREWORD

This study of vocational-technical education embraces all or parts of six counties in the northern part of the lower peninsula of Michigan. This area is known popularly as the TOP-O-MICHIGAN area. The study was done by a team of experienced vocational researchers from Michigan State University under private contract to the sponsors of the study.

This study was concerned with determining first what vocational education facilities and programs were currently being operated and with describing a way of improving such efforts in the six-county area. The study was designed with permission of the sponsors to pursue basically the same techniques and instruments as the study recently finished by the same study team in the five-county Grand Traverse area. Using a similar design helps make the studies comparable and facilitates planning a program in these two areas which adjoin one another. In some cases this report repeats some general information about the needs for vocational education using material from the Grand Traverse report. However, this report is quite different in its final recommendations.

The citizens and educational leaders of the Top-O-Michigan area should realize that few alternatives are given in this report because the research team believes that local citizens need an unequivocal plan for their consideration.

The sponsor of this study is North Central Michigan College at Petoskey, which provided funds for the study contract aided by state and federal funds granted by the Vocational Division, State Department of Education. Guiding over-all development of the study was an executive committee composed of Albert Shankland, Dean of North Central Michigan College, and three superintendents from each of the two intermediate school districts which formed the boundaries of the study. Two local study coordinators were employed and both gave much valuable assistance. They represented former superintendencies in both intermediate districts — Carl Spitler (Petoskey) and Floyd Merritt (Onaway). The organization of the study personnel is shown in Figure 0.1.

The study team wishes to acknowledge their individual and collective debt to everyone who aided and assisted in the study and to the manu educators and employers who provided such helpful information. To the graduate assistant, Ned Keys, and to the project secretary, Miss Dorothy Beck, goes our thanks for their dedicated service.

To everyone in the Top-O-Michigan area, citizens and educators are sent the best wishes of the researchers in their efforts to improve vocational-technical education to the end that each individual may have equal opportunity for a rewarding occupational career for his own maximum personal growth.

October 1, 1965

For the Study Team: Peter G. Haines, Project Director
O. Donald Meaders, Associate Director

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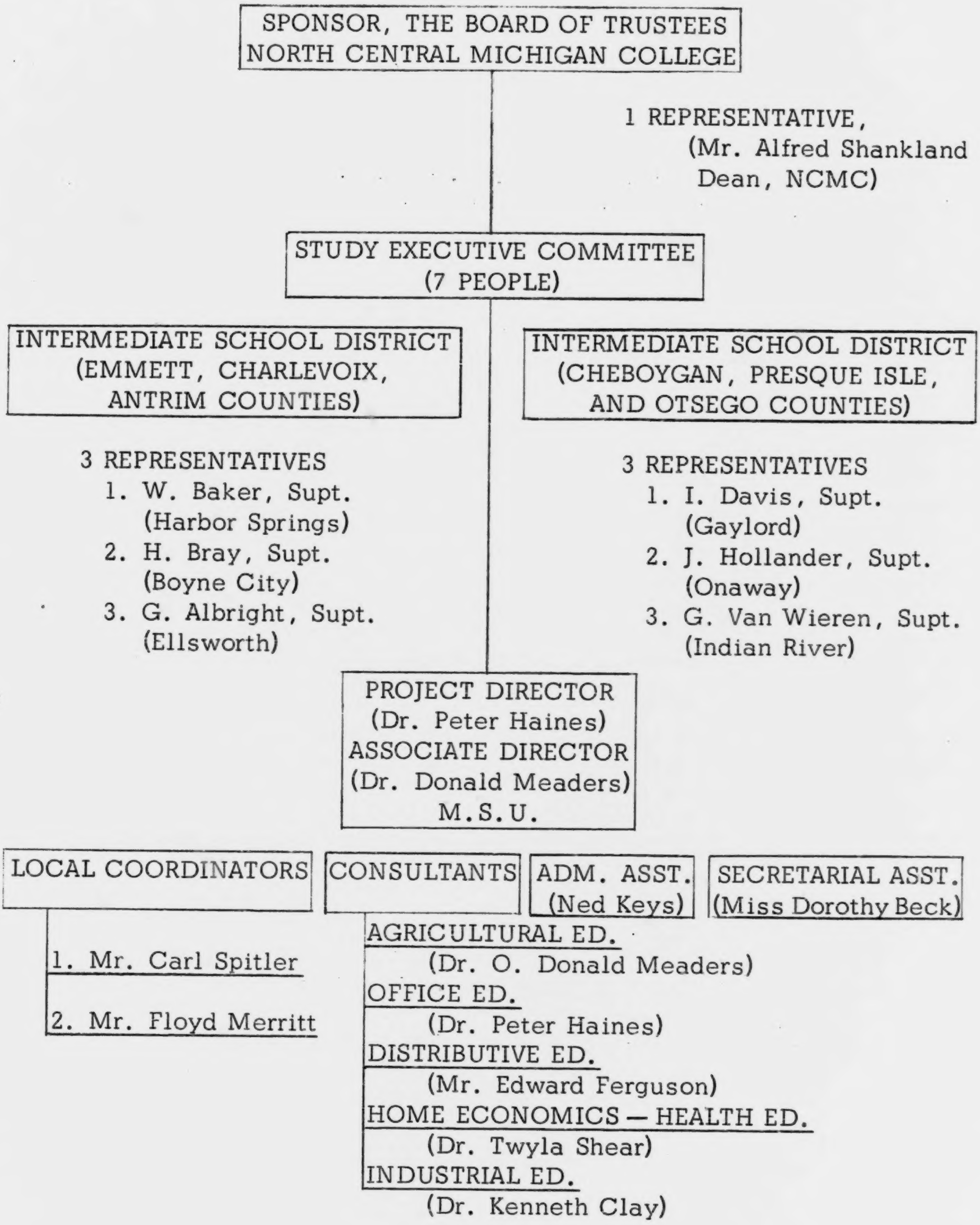
SPONSOR, THE BOARD OF TRUSTEES
NORTH CENTRAL MICHIGAN COLLEGE
1 REPRESENTATIVE,
(Mr. Alfred Shankland
Dean, NCMC)
STUDY EXECUTIVE COMMITTEE
(7 PEOPLE)
INTERMEDIATE SCHOOL DISTRICT
(EMMETT, CHARLEVOIX,
ANTRIM COUNTIES)
INTERMEDIATE SCHOOL DISTRICT
(CHEBOYGAN, PRESQUE ISLE,
AND OTSEGO COUNTIES)
3 REPRESENTATIVES
1. W. Baker, Supt.
(Harbor Springs)
2. H. Bray, Supt.
(Boyne City)
3. G. Albright, Supt.
(Ellsworth)
3 REPRESENTATIVES
1. I. Davis, Supt.
(Gaylord)
2. J. Hollander, Supt.
(Onaway)
3. G. Van Wieren, Supt.
(Indian River)
PROJECT DIRECTOR
(Dr. Peter Haines)
ASSOCIATE DIRECTOR
(Dr. Donald Meaders)
M.S.U.
LOCAL COORDINATORS
CONSULTANTS
ADM. ASST.
(Ned Keys)
SECRETARIAL ASST.
(Miss Dorothy Beck)
1. Mr. Carl Spitler
2. Mr. Floyd Merritt
AGRICULTURAL ED.
(Dr. O. Donald Meaders)
OFFICE ED.
(Dr. Peter Haines)
DISTRIBUTIVE ED.
(Mr. Edward Ferguson)
HOME ECONOMICS — HEALTH ED.
(Dr. Twyla Shear)
INDUSTRIAL ED.
(Dr. Kenneth Clay)

FIGURE 0.1

ORGANIZATION CHART — TOP-O-MICHIGAN AREA STUDY

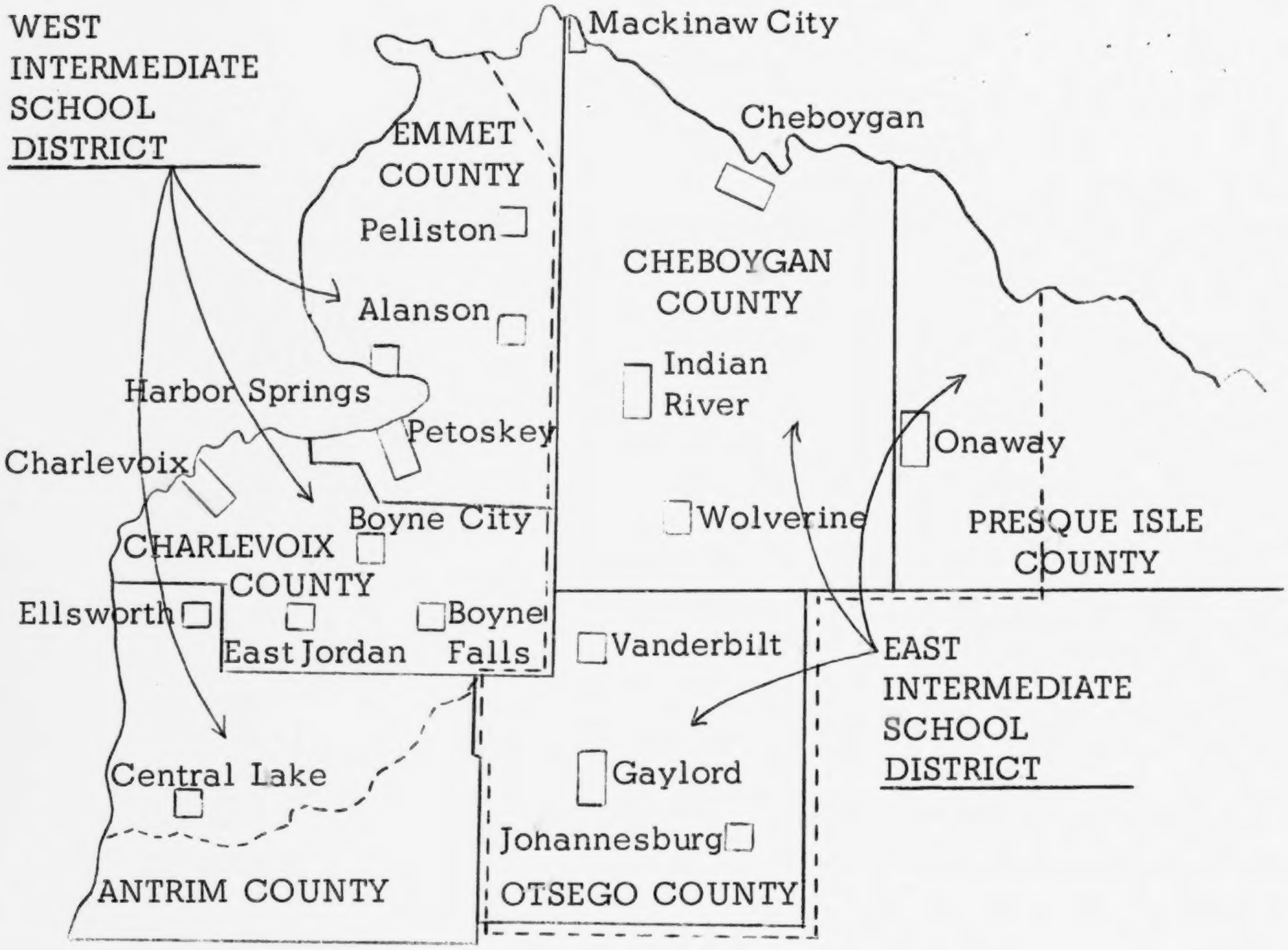
WEST INTERMEDIATE SCHOOL DISTRICT
Mackinaw City
Cheboygan
EMMET COUNTY
Pellston
Alanson
CHEBOYGAN COUNTY
Indian River
Harbor Springs
Petoskey
Charlevoix
Onaway
Boyne City
Wolverine
PRESQUE ISLE COUNTY
CHARLEVOIX COUNTY
Ellsworth
East Jordan
Boyne Falls
Vanderbilt
EAST INTERMEDIATE SCHOOL DISTRICT
Central Lake
Gaylord
Johannesburg
ANTRIM COUNTY
OTSEGO COUNTY

FIGURE 0.2

DISTRICTS COVERED BY THE
TOP-O-MICHIGAN AREA VOCATIONAL STUDY

# CHAPTER 1

# INTRODUCTION — HOW THIS STUDY WAS MADE

> Varied vocational programs in area high schools would interest young people in different types of vocations about which they know very little. If you don't have any idea about what kind of jobs exist in the world, how are you going to know what you would like to do in life.[1]

Today there are literally thousands of jobless workers and workerless jobs throughout the United States. The existence of this situation in a period characterized by general economic stability and prosperity, by large numbers of youth entering the labor market or approaching graduation from school, has caused citizens in many communities to focus attention on their educational institutions as one of the possible sources of help in solving the problem. The general concern for vocational and technical education on the part of the citizens in six of the counties near the top of Michigan's lower peninsula brought about this study.

The need for vocational and technical education is twofold: to meet the needs of individuals to be efficient, productive citizens, and to meet the needs of government, business and industry for competent individuals to produce goods and provide services necessary in a democratic society. The kind of vocational and technical education needed and how to provide it in a relatively low-density population area — these two major points form the heart of this study.

## A. Purposes of the Study

The basic purposes of this study, as defined by the study sponsors and the research team, are to determine what vocational and technical education programs are needed and to propose a feasible plan for providing such programs. To determine the needs and a feasible plan, the study team sought answers to questions in the following six basic areas:

1. What are the current programs of occupational education in the high schools and the community college? How many persons

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[1] Comment written on a questionnaire received from one of the 1963 high school graduates.

are served? How adequate are the courses of study, facilities, and equipment? What are the qualifications of the teachers?

2. What are the educational and occupational aspirations of the students? What occupational aspirations do parents have for their children?
3. What are the occupational and educational achievements of the high school graduates and dropouts? Where do they find employment? What kinds of jobs do they secure? What post high school education have they acquired?
4. What are the occupational needs of the area? What are the employment opportunities? What do employers say about the adequacy of occupational preparation now provided by the schools? What are the training needs for new employees and for up-grading and up-dating present employees?
5. What are the beliefs about vocational and technical education held by administrators, employers, and other influential citizens?
6. What is the financial base for education? What are the current enrollments in the schools and the expenditures for education? What financial resources exist which might be used for an expanded and strengthened program of vocational and technical education?

The study team used data describing local as well as state and national situations. The mobility of people to find jobs and other opportunities to meet their social and economic needs demands that more than local data be used to determine the kinds of vocational and technical education programs needed. However, the major concern of the executive committee for this study, and this was shared by the research team, was to determine what was needed for the six-county area covered by the study and some feasible way of meeting the need. It was recognized that...

> identical opportunities do not represent equality of opportunity, for the youth living near a . . . school which does not provide the program in which his interests and aptitudes lie is not served by that school.

## B. Procedures of the Study

This study was conducted primarily through the use of a team of researchers, all professional vocational teacher educators with experience in programs of vocational education at local and state levels and in similar area vocational studies. This team made an intensive study of the area, collecting data through surveys, interviews, group meetings, on-the-spot inspections of existing facilities and equipment, and other activities, and then analyzing these data:

1. Interviews with school administrators regarding evaluation of present programs, plans for the future, and basic beliefs about vocational and technical education. Interviews were also conducted with faculty members at the community college.
2. Observation of present facilities and equipment for vocational and technical education.
3. Collection of school enrollment data and other pertinent information by the local study coordinators.
4. Collection of information from many of the vocational and practical arts teachers regarding their beliefs concerning present and needed vocational education programs.
5. A questionnaire was mailed to the graduates and dropouts of the 1963 high school classes.
6. A questionnaire dealing with occupational interests was administered to all eleventh graders and their parents.
7. Compilation of demographic and economic data from such sources as U. S. Bureau of the Census, Michigan Employment Security Commission, and U. S. Department of Agriculture.
8. Visitations to significant places of employment and interviews with employers, chambers of commerce representatives and other organization and association representatives.
9. Processing of questionnaire data through the computer 3600 on campus.
10. Staff conferences in the area and at the University to analyze findings and draw conclusions.
11. Meetings with members of the executive committee.

The study team used the following guidelines for accomplishing the study:

1. The study is a staff project and both design and over-all conclusions reflects the thinking of the whole team rather than a compilation of separate reports from specialists in each field of vocational education.
2. The opinions and beliefs of local people are important in educational evaluation and planning. Consideration must be given to established patterns of educational organization and administration in the area.
3. The study and report are based on a master plan concept rooted

in educational law and policies concerning vocational education existent in Michigan.

4. The study reflects long-range views toward solution of a problem rather than stop-gap measures.
5. The report recognizes unique characteristics of the area as one basis for developing vocational and technical education programs rather than assuming that similar programs should be developed in all areas.
6. The report provides a perspective of the six-county area and does not concentrate upon evaluation of each school program nor upon solutions to specific problems in a given school. The staff views the area as an economic and educational unit for investigation.
7. The report embodies the combined years of experience and best judgments of the staff with their findings during days of field work followed by analysis of objective data.

This report contains data gathered in many ways and represents more than 30 man-days on-site in the local area plus many man-days in the preparation of instruments, analysis of data, and report writing. Table 1-1 contains a summary of the number of staff contacts while visiting schools, and interviewing employers and various other officials.

TABLE 1.1

STAFF CONTACTS FOR INTERVIEWS AND OBSERVATIONS

| GROUP | NUMBER STAFF MEMBER CONTACTS |
|---|---|
| Educational Leaders & School Visitations | 122 |
| Employers | 119 |
| Government Agencies | 61 |
| TOTAL | 302 |

Source: Reports of survey staff.

# SECTION I.

# A TOTAL PROGRAM OF VOCATIONAL-TECHNICAL EDUCATION

# CHAPTER 2

# OCCUPATIONS IN THE MODERN WORLD AND THE NEED FOR VOCATIONAL TECHNICAL EDUCATION

The effect of social, economic, and technological change upon occupations, and consequently, upon education for occupational competence is well documented. Hence, this study need not discuss in detail these effects. But, an awareness of these trends is vital to the leaders in the Top-O-Michigan area for no geographical region is an economic island.

## A. Effects of Social, Economic, and Technological Change

### No Place for the Unskilled

Evidence is everywhere that the labor market for the unskilled is slow indeed. Occupations which require few skills or which do not require at least the competencies of the high school diploma are declining rapidly and will decline further. The U. S. Department of Labor reported in 1963 that 29% of the 17-24 year old school drop-outs were unemployed. Of those high school graduates of 1962 without skills, over 14% were unemployed.

The picture is clear; the unskilled do not find jobs and if they do, the job is not likely to last permanently. The unskilled not only do not contribute productively to the community, they take resources from it.

### Service Occupations are Growing Rapidly

Among the most notable economic trends is the manner in which citizens are spending increasing proportions of their discretionary buying power on services — health, recreational, repair, financial, and personal. What we once did for ourselves, or did without, we now pay others to do for us. This unparalleled demand for services has caused certain occupations to expand rapidly. Consider the demands for health and paramedical workers; those occupations in the hotel, motel, restaurant, and resort trades; repairmen; cosmetologists and barbers; and persons in finance, insurance, and real estate. In many of these areas the ratio of supervisory and managerial personnel to workers is high and the need for advanced education is obvious.

## Technology Calls for Increased Skill

The application of principles of technological development in manufacturing, processing, and agriculture calls for much higher levels of skills and technical knowledge on the part of skilled employees than formerly was the case. There is also an increasing demand for "support" type personnel to back up the theoretical engineer. As product and process become more complex, training beyond the vocational skill level is needed; advanced training is needed in the applied mathematics and sciences as well as additional education in design.

## The Labor Force is Expanding

Because of the large increase in population of young people, the labor force is expanding. Perhaps a better word is "exploding." As these waves of young people enter the labor force, competition for jobs will increase; success will be on the side of those who are among the most competent. Similarly the woman who re-enters the labor market after marriage and children will encounter increased competition for jobs unless she has up-to-date salable skills.

## Paperwork and the Office Worker

Although automated devices are seen by some as the death-knell of the clerical worker, the facts show that the volume of correspondence, financial record keeping, and preparation of records is demanding increased numbers of office workers. Particularly in demand are those with higher skills — stenographers, executive secretaries, office managers, junior accountants, and data processing personnel.

## The Marketing Revolution

The last half of this century has been aptly termed "the age of distribution." The marketing and provision of goods and services of all kinds has become the most important segment of our economy, accounting for employment of over half of the labor force. In this marketing effort are many of the service workers referred to earlier, but in addition, there is much demand for those who can advertise, sell, merchandise, store, and otherwise distribute goods and services. In the marketing field, the ratio of supervisory and managerial personnel to workers is higher than in many fields, calling for a supply of well-educated individuals who can manage the enterprise and supervise others. In this field also is the greatest demand for those who have the capacity to own and operate businesses for themselves.

### Continued Education is a Must

One of the most important lessons to be learned by those who will be in the labor force from here forward is that they must always continue their education. Change is so rapid and competition so intense that what was good yesterday will not be very useful tomorrow. Workers, supervisors, and managers will find it necessary to return to formal, part-time schooling occasionally if they are to keep up. Adult vocational education becomes their aid to continued productive employment.

### Mobility is a Fact of Life

Studies show that in the United States over 20% of the people change their addresses annually and at least 3% of these move from one state to another. Vocational education must prepare people for jobs where the jobs are and help those who want to move to possess the ability to find employment. Likewise, local communities find themselves in a position of responsibility for educating for employment those who grew up elsewhere.

### Basic Education is Requisite

A fact of life in education today is that vocational-technical education cannot be built on anything less than a solid base of social, emotional, and basic skill competence. Youth and adults who are limited in these characteristics cannot be occupationally competent. Thus, vocational-technical education programs must work closely with general educators to develop remedial programs for those prospective vocational students who lack required general education skills.

## B. The Nature of Vocational-Technical Education in a Contemporary Society

Viewed in a broad sense, vocational education is any education which specifically prepares an individual to perform successfully in his chosen occupation. By this definition, such diverse efforts as the one-day company training program for the semi-skilled machine operator and the curriculum of the medical school are both vocational education. Yet, for this study a more restrictive definition must be found.

The definition used in this Top-O-Michigan study is that, vocational education consists of that formal instruction which prepares an individual for entry into employment or upgrades those who are already employed. The definition includes instruction for all occupations except those which are usually classified as "professional" with the meaning that a baccalaureate degree is required. However, vocational education, as used in this study, does refer to education designed to upgrade and improve those who in managerial capacities already possess a college degree.

Vocational education can be equated with education for occupational competence. It concerns itself with teaching those skills, knowledges, and attitudes that are requisite to success in a given occupation.

This Top-O-Michigan study was concerned with that formal vocational instruction which is offered at the high school, post high school (13th and 14th grades), and adult education levels. No maximum age for enrollees in vocational courses is envisioned for the purpose of vocational education in the development of a trained manpower pool.

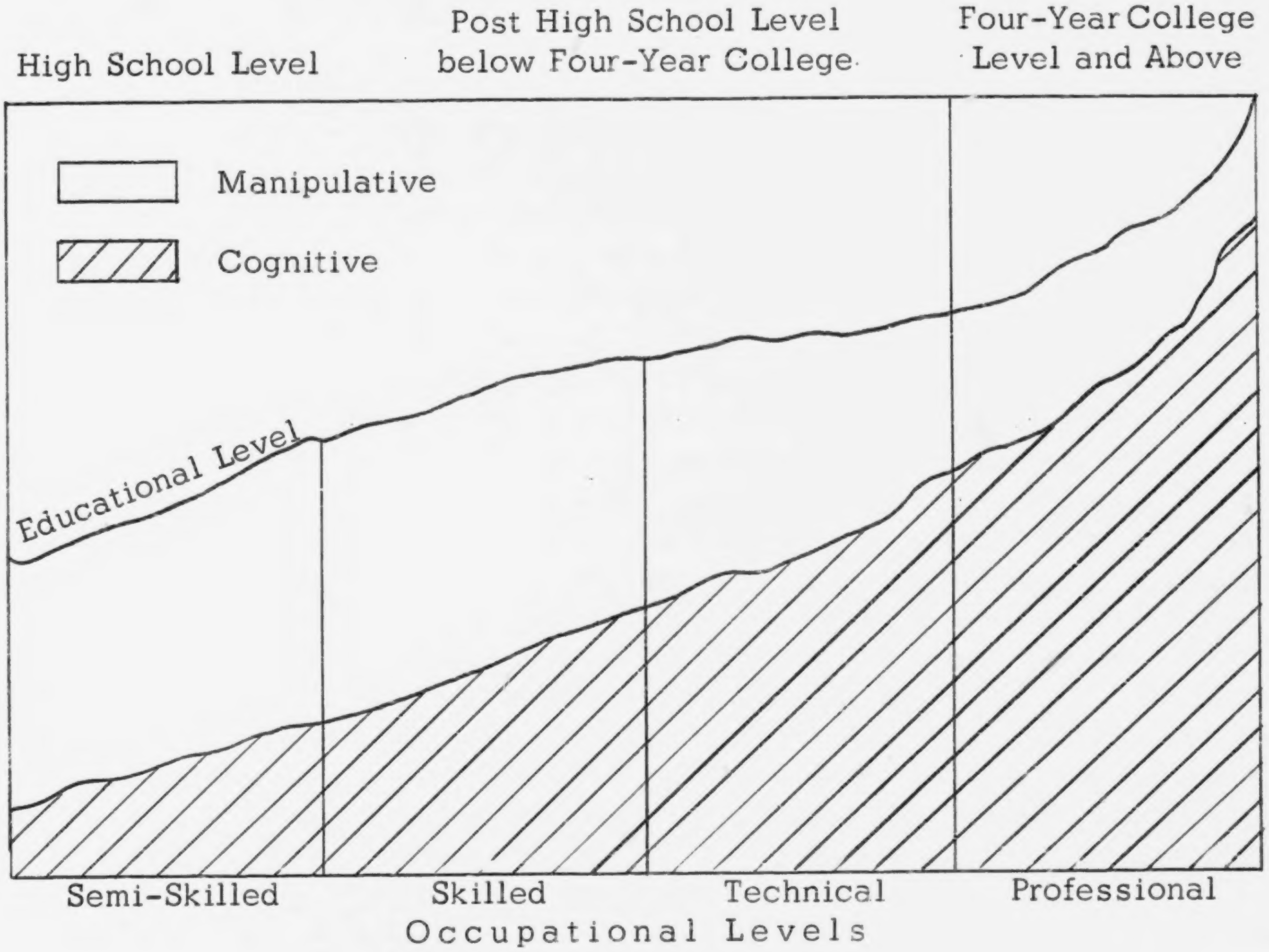
The term, pre-vocational education, is used in this study to mean that formal instruction which is specifically designed to provide the prospective student with: career orientation, basic knowledges, attitudes, and skills useful in a broad family of occupations, social and basic skills as they apply to an occupation. Pre-vocational education does not include the general education required of all students although the research team recognizes the value of general education in occupations.

### Differences between Vocational Education and Technical Education

Most vocational educators use the term, vocational education, to describe formal instruction for occupations at the skilled and semi-skilled levels while education for those jobs between the skilled classification and the professional category is usually termed technical or sub-professional education. The basic difference between vocational education and technical (subprofessional) education rests in the amount of cognitive knowledge versus manipulative skill required by a given occupation. Thus, to use the terms correctly one must determine the occupational requirements of skill and knowledge in any given occupation. Figure 2.1 provides some idea of the relationship between occupations which require vocational preparation and those which require technical or even professional education.

Some individuals claim that vocational education is high school level while technical (subprofessional) education is post high school level. Such a distinction is not valid because a 40-year-old may need retraining for a skilled trade, but will secure his vocational education in a post high school institution. Perhaps a more valid point is that vocational education is non-collegiate in quality and in credit while technical education is collegiate in quality and may be awarded collegiate credit.

A sample occupational classification is given in Table 2.1 which provides clues as to the relative amounts of manipulative skill and knowledge required in occupations. It should be noted that business occupations at the technical level are usually called sub-professional because some educators think of the phrase, technical information, as referring only to industrial, engineering, or other scientifically related knowledges. But, the basic point is that there are, and there will be many more of, a group of occupations which require more than vocational preparation but less than four-year degree preparation.



Source: Vocational and Technical Education in Illinois (Urbana: University of Illinois, Bureau of Educational Research, 1960).

FIGURE 2.1

RELATIVE PROPORTIONS OF MANIPULATIVE AND COGNITIVE ELEMENTS IN EDUCATION PROGRAMS FOR DIFFERENT OCCUPATIONAL LEVELS

## C. A Total Program of Vocational-Technical Education

Every community needs to use a model of a complete program of vocational-technical preparation against which to measure itself even though not every community should meet every functional need shown by the model. But every community must know what functions it is not meeting and satisfy itself that no need exists locally. The model is shown below:

1. Preparation for entry jobs
    .... semi-skilled/skilled = vocational education
    .... technical/subprofessional = technical education
    .... professional = professional education

2. Retraining for a new job
    .... (a form of preparatory instruction for the levels in #1)

3. Upgrading
    .... helping the individual do his present job better and gain greater satisfaction
    .... preparing the individual for promotion to a higher ranking position in his present occupation

In providing for the functional occupational needs shown in the model above, a community should consider the following levels in its program of occupational preparation:

1. General education — Is it adequate to provide those personal characteristics, social skills, and basic skills requisite to success in a given occupation?

2. Prevocational education — Does it provide occupational orientation and exploration as well as general occupational skills and information applicable to a broad spectrum of jobs?

3. Vocational education — Is there preparation for semi-skilled and skilled jobs?

4. Technical education — Does there exist preparation for technical and sub-professional occupations?

Another way a local community should view its program of occupational preparation is by level of occupations: Is education provided for

1. Rank-and-file jobs?
2. Supervisory positions?
3. Managerial positions?

Lastly, the community should ask itself the following questions:

1. Are we offering preparation of the length required and according to a time schedule suitable to those who need the education?

2. Are we offering the kind of education adults need part time for those who are employed or wish to be employed?

    a. Short unit courses — four/ten sessions of 2-3 hours each

    b. Intensive clinics — four-twenty hours covering a few days successively

    c. Long unit classes — one or two sessions per week for a semester

    d. Sequenced programs — a series of courses leading to a certificate of competency

    e. Extension courses — offered during the working day with the cooperation of the employer

    f. Evening courses — offered during the non-working hours of the adult

3. Do we offer to adults occupational counseling services?

4. Are we making use of advisory committees of employers and employees to provide occupational education where and when it is needed?

5. Are we providing vocational education for:

    a. those who dropped out of school?

    b. those who attended schools where vocational education was not offered?

    c. those who graduated from high school but who did not take the vocational education that was offered? (See Figures 2.2 and 2.3.)

## TABLE 2.1

## CLASSIFICATION OF SOME SAMPLE OCCUPATIONS*

| Professional | Technical | Skilled | Semi-Skilled |
|---|---|---|---|
| Electrical Engineer (0-17.01) | Instrument Maker (II, 4-75.130) | Construction Electrician (4-97.010) | Electric Range Assembler (7-00.924) |
| Mechanical Engineer (0-19.01) | Production Illustrator (0-48.32) | Machinist (4-75.010) | Engine-Lathe Operator (II, 6-78.011) |
| Architect (0-03.10) | Architectural Draftsman (0-48.05) | Carpenter (5-25.110) | Floor-Sanding Machine Operator (7-32.711) |
| Tax Accountant (0-01.40) | Clerical Technician (0-69.97) | Bookkeeper (II, 1-01.02) | Typist (1-37.32) |
| Lawyer (0-22.10) | Business Agent (1-48.01) | Secretary (1-33.01) | Clerk (1-04.01) |
| Economist (0-36.11) | Account Analyst (1-06.51) | Teller (1-06.02) | Key-Punch Operator (1-25.62) |
| Horticulturist (0-35.05) | Tree Surgeon (0-68.13) | Log Grader (4-29.020) | Nurseryman (II, 3-39.10) |
| Agronomist (0-35.01) | Dairy Tester (0-50.45) | Meat Dresser (4-09.208) | Farm Hand (3-16.10) |
| County Agent (0-12.20) | Commission Man (1-52.21) | Farm Mechanic (3-35.10) | Log Scaler (6-29.010) |
| Home Economist (0-12.35) | Interior Decorator (0-43.40) | Cosmetologist (2-32.15) | Manicurist (2-32.31) |
| Home Demonstration Agent (0-12.30) | Stylist (0-69.96) | Dressmaker (4-25.030) | Maid (2-06.11) |
| Dietician (0-39.33) | Laboratory Tester (0-50.46) | Chef (2-26.31) | Waitress (2-27.12) |
| President (0-97.01 | Buyer (II, 0-74.11) | Floor Manager (0-75.10) | Sales Clerk (1-70.10) |
| Editor (0-06.44) | Commercial Photographer (0-56.11) | Motion Picture Projectionist (5-55.010) | Light Floorman (7-56.260) |
| Advertising Director (I, 0-06.97) | Display Man (II, 0-43.30) | Advertising Salesman (1-87.26) | Telephone Operator (I, 1-42.31) |

---

*Number designations were taken from the U. S. Department of Labor, Bureau of Employment Security, Dictionary of Occupational Titles, Vol. I (Washington, D. C., 1949). The classification shown would be subject to re-evaluation following a complete occupational analysis.

Source: Vocational and Technical Education in Illinois (Urbana: University of Illinois, Bureau of Educational Research, 1960).

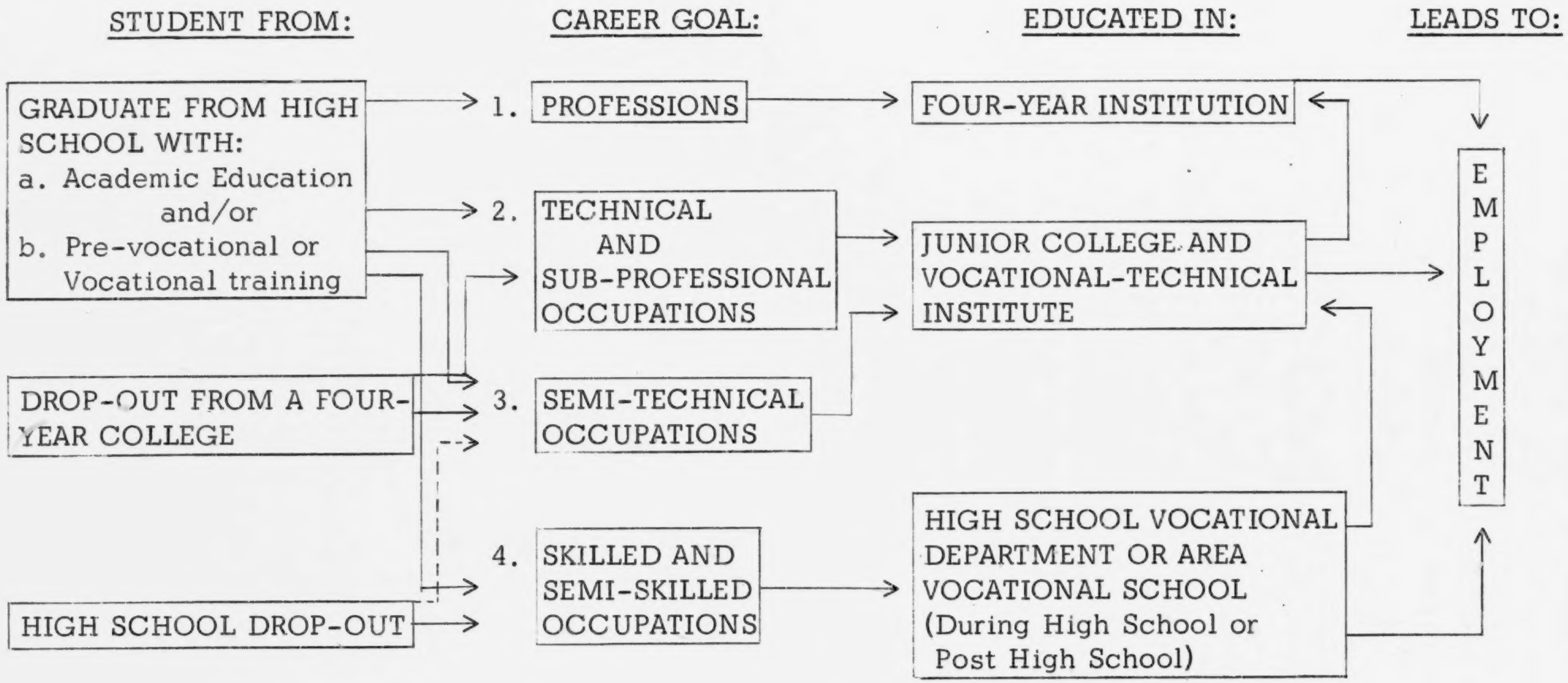

STUDENT FROM:
CAREER GOAL:
EDUCATED IN:
LEADS TO:
GRADUATE FROM HIGH SCHOOL WITH:
a. Academic Education
and/or
b. Pre-vocational or Vocational training
DROP-OUT FROM A FOUR-YEAR COLLEGE
HIGH SCHOOL DROP-OUT
1. PROFESSIONS
2. TECHNICAL AND SUB-PROFESSIONAL OCCUPATIONS
3. SEMI-TECHNICAL OCCUPATIONS
4. SKILLED AND SEMI-SKILLED OCCUPATIONS
FOUR-YEAR INSTITUTION
JUNIOR COLLEGE AND VOCATIONAL-TECHNICAL INSTITUTE
HIGH SCHOOL VOCATIONAL DEPARTMENT OR AREA VOCATIONAL SCHOOL (During High School or Post High School)
EMPLOYMENT

FIGURE 2.2

PATHWAYS FROM EDUCATION TO EMPLOYMENT VIA THE POST HIGH SCHOOL

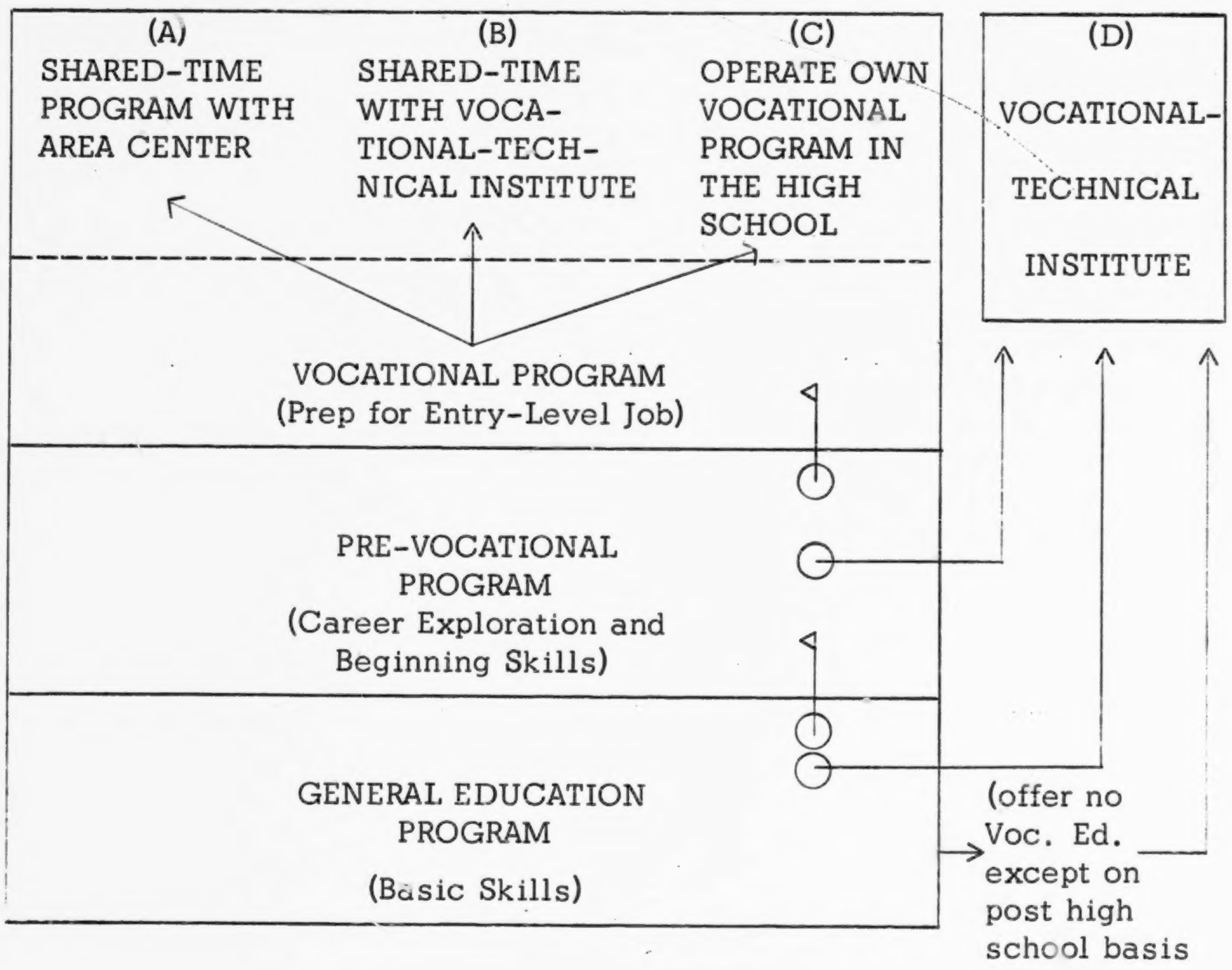

(A)
SHARED-TIME PROGRAM WITH AREA CENTER
(B)
SHARED-TIME WITH VOCATIONAL-TECHNICAL INSTITUTE
(C)
OPERATE OWN VOCATIONAL PROGRAM IN THE HIGH SCHOOL
(D)
VOCATIONAL-TECHNICAL INSTITUTE
VOCATIONAL PROGRAM
(Prep for Entry-Level Job)
PRE-VOCATIONAL PROGRAM
(Career Exploration and Beginning Skills)
GENERAL EDUCATION PROGRAM
(Basic Skills)
(offer no Voc. Ed. except on post high school basis

FIGURE 2.3

ALTERNATIVES FOR LOCAL HIGH SCHOOLS
IN PROVIDING EDUCATION FOR EMPLOYMENT
FOR THEIR STUDENT BODY

# CHAPTER 3

# THE TOP-OF-MICHIGAN AREA

The area under investigation consisted of four counties plus parts of two additional counties. All of Charlevoix, Cheboygan, Emmet and Otsego counties were included and parts of Antrim and Presque Isle counties. Two school districts in the northern part of Antrim County, Central Lake and Ellsworth, are a part of the Charlevoix-Emmett Intermediate School District and as such were included in this study. The Onaway Area Community School in the western part of Presque Isle County was included in the study even though the school districts in the remainder of the county preferred to be identified with a study to be conducted later in the Alpena area.

The study area, then, consisted of all of the Charlevoix-Emmett Intermediate School District (designated as the "West" district in this study report) and all of the Otsego-Cheboygan-Presque Isle Intermediate School District (designated as the "East" district) except the east two-thirds of Presque Isle County.

The area under investigation had been considered previously by the Michigan Council of Community College Administrators as the major portion of a regional grouping suited to the purposes of supporting a community college and area vocational-technical education programs. The area vocational study which is the subject of this report was approved by the Michigan Department of Education, evidence of the desire of that agency to consider the four counties plus portions of two additional counties as suitable for study as a center for vocational education.

## A. Demographic Aspects of the Region

The full six counties in the region for this study include more than two million acres and about 75,000 people. The geographic area includes the extreme northern and northwestern part of the lower peninsula of Michigan. In general, the counties are sparsely populated with no major cities. The five cities with population (1960 Census) over 2,500 are Boyne City (2,797), Charlevoix (2,751), Cheboygan (5,859), Gaylord (2,568), and Petoskey (6,138). These five cities have approximately one-third of the population of the specific area studied. All other towns in the area are less than 2,000 population each. With the exception of Gaylord, the cities are located near the perimeter of the area.

The lack of urban centers constitutes one of the major problems for providing vocational and technical education, particularly of the type involving supervised occupational experience in cooperation with local business and industry.

## Population Change

The total population in the six counties changed much less during the ten-year period 1950 to 1960 than did the population of the total state. While Michigan's population increased nearly 23 percent the change in these counties was as follows:*

| | |
|---|---|
| Antrim | -3.2% |
| Charlevoix | -0.4% |
| Cheboygan | +6.0% |
| Emmet | -3.8% |
| Otsego | +17.2% |
| Presque Isle | +9.3% |

As shown in Table 3.1, net migration offset natural increases in three of the counties, and Otsego County registered the largest proportional gain of all six counties. Emmet County, the most populous, lost population from both Petoskey and the balance of the County.

The total population of the six counties in 1960 was about 75,000 with about 40 percent in two counties — Cheboygan and Emmet, as shown in Table 3.2. Although the six-county population increased slightly during the 20-year period 1940 to 1960, Thaden has projected a slight decrease by 1970. It should be noted, however, that the area's population is increased substantially during the summer months when summer residents and tourists arrive in large numbers. Other periods of large influxes are seasons for hunting, fishing, and winter sports.

The importance of the temporary residents (tourists, sportsmen, summer residents, and others) to planning programs of vocational and technical education is quite significant. Employment tends to be seasonal in many businesses and consequently, opportunities for summer occupational experiences may be quite different than the opportunities during the fall and winter. Some summer residents also wish their children enrolled in school for enrichment programs.

This brief review of population suggests for education that the schools in some of the counties may continue to experience steady or slightly declining enrollments, especially at the high school level. Other schools, mainly

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*Source: Michigan Population 1960: Selected Characteristics and Changes, Special Bulletin 438 (East Lansing: Michigan State University, Agricultural Experiment Station, 1962).

TABLE 3.1

POPULATION CHANGE IN SIX-COUNTY AREA

| | ANTRIM | CHARLEVOIX | CHEBOYGAN | EMMET | OTSEGO | PRESQUE ISLE | TOTAL |
|---|---|---|---|---|---|---|---|
| 1940 to 1950 | | | | | | | |
| Population Change | -173 | 532 | 132 | 834 | 627 | -209 | +1,743 |
| Natural Increase* | 896 | 1,329 | 1,630 | 1,858 | 744 | 1,848 | |
| Net Migration | -1,069 | -797 | -1,498 | -1,024 | -117 | -2,057 | |
| 1950 to 1960 | | | | | | | |
| Population Change | -348 | -54 | 819 | -630 | 1,110 | 1,121 | +3,761 |
| Natural Increase* | 942 | 1,382 | 1,954 | 2,128 | 1,083 | 2,368 | |
| Net Migration | -1,290 | -1,436 | -1,135 | -2,758 | 27 | -1,247 | |
| | | | | | | | +5,504 |

Source: J. F. Thaden, Population of Michigan Counties, Projections to 1970, Technical Bulletin B-24 (East Lansing: Michigan State University, Continuing Education Service, March 1962).

*Corrected for underregistration of births.

TABLE 3.2

POPULATION: CHANGES AND PROJECTIONS

| | Population | | | Population in percent | | | 1940/1960 % Change of Pop. | Projection 1970** | Percent of Six County Total |
|---|---|---|---|---|---|---|---|---|---|
| | 1940 | 1950 | 1960 | 1940 | 1950 | 1960 | | | |
| Antrim | 10,964 | 10,721 | 10,373 | 15.33 | 14.71 | 13.85 | -05.39 | 9,160 | 12.55 |
| Charlevoix | 13,031 | 13,475 | 13,421 | 18.22 | 18.49 | 17.91 | 02.99 | 12,910 | 17.68 |
| Cheboygan | 13,644 | 13,731 | 14,550 | 19.07 | 18.84 | 19.42 | 06.64 | 14,380 | 19.70 |
| Emmet | 15,791 | 16,534 | 15,904 | 22.08 | 22.68 | 21.23 | 00.71 | 14,960 | 20.49 |
| Otsego | 5,827 | 6,435 | 7,545 | 08.15 | 08.83 | 10.07 | 29.48 | 8,580 | 11.75 |
| Presque Isle | 12,250 | 11,996 | 13,117 | 17.13 | 16.46 | 16.46 | 07.08 | 13,020 | 17.83 |
| Total | 71,507 | 72,892 | 74,910 | 100.00 | 100.00 | 100.00 | 41.51 | 73,010 | 100.00 |

Source: J. F. Thaden, Population of Michigan Counties, Projections to 1970, Technical Bulletin B-24 (East Lansing: Michigan State University, Continuing Education Service, March 1962).

**Projection is based on the ratio method assuming that the total population will be 9.6 million and the population of each county would be the same percentage as the ratio from 1940 to 1960.

those located in the cities, are more likely to experience growth but at a slower rate than schools in urban areas in southern Michigan. The location of some new industries in the area may alter the population picture but probably not for most of the towns with a population currently under 2,500.

## B. School Districts and School Enrollments

Eighteen public school districts operated high schools during 1964-65 in the area under study. In addition, three parochial high schools were operated, all by the Roman Catholic Church. Total enrollment, grades 9-12, in these 21 high schools was 4,629 in 1964-65.

A community college, North Central Michigan College, located at Petoskey, established in 1958, and supported by tax monies from Emmet County and appropriations from the State of Michigan serves the surrounding area.

The area under study is relatively isolated from other institutions offering higher education or post high school vocational education. The approximate mileages between cities, as shown in Table 3.3, could be misleading to the person unfamiliar with the terrain and climate in northern Michigan. Much of Antrim, Charlevoix, and Emmet Counties are characterized by northwest-southeast drumlins and moraines which have made east-west road construction and travel difficult. Travel time from point to point is usually longer than expected in flatter areas. Added to this is the time required to get from a rural residence to the main highway or trunkline road.

TABLE 3.3

APPROXIMATE MILEAGE FROM SELECTED TOWNS AND CITIES TO INSTITUTIONS FOR HIGHER EDUCATION

| Institution for Higher Education | Charlevoix | Cheboygan | Central Lake | Gaylord | Harbor Springs | Mackinac City | Onaway |
|---|---|---|---|---|---|---|---|
| North Central Michigan College, Petoskey | 17 | 37 | 41 | 34 | 9 | 38 | 44 |
| Northwestern Michigan College, Traverse City | 53 | 107 | 34 | 66 | 79 | 105 | 114 |
| Alpena Community College, Alpena | 120 | 78 | 125 | 74 | 104 | 95 | 59 |
| Central Michigan University, Mt. Pleasant | 142 | 148 | 122 | 100 | 150 | 155 | 151 |

Snowfall, although heavy in much of the inland area of this six-county region, poses no major problem for movement of vehicles on major highways and trunklines. However, transportation is a problem for those people who live along other roads. The heaviest snowfall area of the entire lower peninsula is around Gaylord where the mean annual snowfall is 122 inches. The coastal cities have much less snowfall (Mackinaw City, 67"; Petoskey, 70"; Cheboygan, 73"; and Charlevoix, 79").

## School Census and Enrollment

The census of school population in the area under study is 10,600 in elementary classes and about 7,900 at the secondary level, a membership below that normally considered as a desirable minimum for establishment and operation of a full-service vocational-technical institute. Added to this relatively low membership is the fact that these youngsters reside in a very large area (covering more than 3,000 square miles).

Enrollments in the 21 high schools under study are shown in Table 3.4. Two striking features are apparent immediately: first, there are no large high schools in the area, and second, more than half of the schools have less than 200 students enrolled in the top four grades. Only six of the 21 schools have graduating classes which include approximately 100 students, oftentimes referred to as a minimum size for an efficient general education program but far below the size needed to operate a full program of vocational education. It has been said that an enrollment of 200 seniors or 800-1,000 students in the top four grades is needed for a school to be able to offer rather limited vocational curricula. On that basis, none of the schools operating has enough students to justify an extensive vocational curricula.

One alternative which has been considered by some as the answer to the problem of low enrollments in consolidation or school district reorganization. This has been proposed in some previous studies conducted in parts of this six-county area, such as the Citizens School Study — Emmet County (1962) which proposed one school district for the entire county with an estimated enrollment of approximately 800 in one comprehensive high school, grades 10-12. If this were to be considered as an acceptable alternative, the estimated enrollments for four public high schools (grades 9-12) to cover the present study area might be as follows:

Emmet County . . . . . . . . . . . . . . . . . . . . 1,055
    Harbor Springs
    Littlefield
    Pellston
    Petoskey
Charlevoix County . . . . . . . . . . . . . . . 1,233
    Charlevoix
    Boyne City
    Boyne Falls
    East Jordan
    Central Lake
    Ellsworth

Cheboygan County. . . . . . . . . . . . . . . . . 1,158
    Mackinaw City    Onaway
    Cheboygan    Wolverine
    Inland Lakes
Otsego County. . . . . . . . . . . . . . . . . . . 464
    Gaylord    Vanderbilt
    Johannesburg

TABLE 3.4

SECONDARY ENROLLMENTS, BY GRADE LEVEL, 1964-65

| | ANTRIM COUNTY | | | | CHARLEVOIX COUNTY | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Central Lake | | Ellsworth | | Boyne City | | Boyne Falls | | Charlevoix | | East Jordan | |
| | M | F | M | F | M | F | M | F | M | F | M | F |
| 9th | 11 | 12 | 14 | 11 | 47 | 47 | 7 | 10 | 44 | 51 | 32 | 28 |
| 10th | 14 | 20 | 9 | 10 | 52 | 50 | 4 | 10 | 46 | 49 | 35 | 38 |
| 11th | 9 | 14 | 14 | 11 | 53 | 39 | 7 | 6 | 44 | 34 | 33 | 24 |
| 12th | 11 | 9 | 14 | 19 | 39 | 34 | 6 | 11 | 41 | 47 | 36 | 27 |
| Total | 45 | 55 | 51 | 51 | 191 | 170 | 24 | 37 | 175 | 181 | 136 | 117 |

| | EMMET COUNTY | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Harbor Springs | | Littlefield | | Mackinac City | | Pellston | | Petoskey | | St. Francis | |
| | M | F | M | F | M | F | M | F | M | F | M | F |
| 9th | 34 | 39 | 6 | 11 | 10 | 9 | 23 | 29 | 65 | 76 | 33 | 36 |
| 10th | 35 | 30 | 13 | 9 | 10 | 10 | 28 | 16 | 69 | 70 | 41 | 37 |
| 11th | 24 | 23 | 9 | 12 | 15 | 8 | 18 | 17 | 75 | 67 | 36 | 36 |
| 12th | 22 | 33 | 9 | 6 | 17 | 11 | 24 | 22 | 76 | 65 | 33 | 35 |
| Total | 115 | 125 | 37 | 38 | 52 | 38 | 93 | 84 | 285 | 278 | 143 | 144 |

TABLE 3. 4--Continued

| | CHEBOYGAN COUNTY | | | | | | | | PRESQUE ISLE | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Cheboygan | | Cheboygan Catholic | | Inland Lakes | | Wolverine | | Onaway | |
| | M | F | M | F | M | F | M | F | M | F |
| 9th | 73 | 68 | 43 | 32 | 24 | 22 | 11 | 8 | 38 | 35 |
| 10th | 84 | 54 | 28 | 26 | 20 | 23 | 8 | 11 | 48 | 51 |
| 11th | 67 | 67 | 32 | 38 | 17 | 19 | 8 | 12 | 37 | 34 |
| 12th | 48 | 56 | 39 | 31 | 20 | 23 | 8 | 7 | 29 | 38 |
| Total | 272 | 245 | 142 | 127 | 81 | 87 | 35 | 38 | 152 | 158 |

| | OTSEGO COUNTY | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Gaylord | | Johannesburg | | St. Mary | | Vanderbilt | | 21 Schools | | |
| | M | F | M | F | M | F | M | F | M | F | Total |
| 9th | 47 | 28 | 13 | 7 | 29 | 22 | 12 | 6 | 616 | 587 | 1203 |
| 10th | 44 | 39 | 9 | 7 | 25 | 23 | 8 | 12 | 630 | 595 | 1225 |
| 11th | 40 | 50 | 6 | 6 | 17 | 18 | 7 | 8 | 568 | 543 | 1111 |
| 12th | 41 | 42 | 9 | 6 | 19 | 10 | 11 | 6 | 552 | 538 | 1090 |
| Total | 172 | 159 | 37 | 26 | 90 | 73 | 38 | 32 | 2366 | 2233 | 4629 |

The rough terrain, the road conditions, the severe winter weather, and the scattered rural population constitute major factors to be considered when proposals are made to enlarge the existing high school districts. Some students are already spending more than one hour on a school bus to get to school. Major improvements could be made to strengthen the general education curricula through school district reorganization, but the study staff does not consider it to be a satisfactory solution to the problem of providing an adequate vocational education program.

The total high school enrollments (grades 9-12, public and non-public) in the study area is approximately 4,600, or about 1,100 seniors. These figures are most important when planning for vocational and technical education programs in a post-high school institution. Most of the entrants would come from this group. If the assumption is made that 25-40 percent of a graduating class (which has had little opportunity for vocational education) will need post-high school occupational education, 275-440 graduating seniors will be the potential annual entrants to vocational and technical education programs for training ranging from a few months to two years. Additional enrollees could and should be expected to come from the ranks of currently employed persons seeking new or additional skills necessary for advancement in their present positions or movement into new positions.

The community college at the time of the study had a full-time equated enrollment of about 350. Enrollments increased last year and a full-time equated enrollment of nearly 400 is expected during the fall of 1965 and an enrollment of about 600 is predicted by the president of the college for the year 1970. This enrollment could furnish the base for an expanded technical education program to serve the surrounding area since certain student personnel facilities and administrative structure are already in existence.

## Educational Level of the Population

The median number of years of school completed by the population in the six-county area ranges from 8.9 in Presque Isle to 11.0 in Emmet as shown in Table 3.5. Emmet County is above the state average while Otsego, Cheboygan, and Presque Isle counties are considerably below the state average. The proportion of persons with education beyond high school is relatively small in Antrim, Cheboygan, Otsego, and Presque Isle counties, considerably less than the 15 percent average for the state. The significance of this for economic development can readily be seen when one realizes the premium usually placed on the availability of skilled craftsmen, technicians, supervisory, and managerial personnel when business and industry seeks new locations or plans for expansion within a given area.

TABLE 3.5

YEARS OF SCHOOL COMPLETED BY PERSONS 25 AND OVER

| County | Grades 1-8 | High School | | College | | Median School Years Completed |
|---|---|---|---|---|---|---|
| | | 1-3 years | 4 years | 1-3 years | 4 or more | |
| Antrim | 2,336 | 1,162 | 1,573 | 377 | 298 | 10.3 |
| Charlevoix | 2,811 | 1,493 | 1,952 | 655 | 395 | 10.6 |
| Cheboygan | 3,641 | 1,463 | 1,667 | 581 | 299 | 9.3 |
| Emmet | 3,064 | 1,817 | 2,484 | 737 | 561 | 11.0 |
| Otsego | 1,809 | 763 | 952 | 281 | 180 | 9.6 |
| Presque Isle | 3,386 | 1,109 | 1,410 | 415 | 277 | 8.9 |
| STATE | 1,494,226 | 944,386 | 1,107,877 | 340,687 | 285,664 | 10.8 |

Source: Michigan Statistical Abstract (5th ed.; East Lansing: Michigan State University, Bureau of Business and Economic Research, 1964), pp. 43-45.

### Further Education of High School Graduates

In the region as a whole, about 46 percent of the graduating seniors for the three years 1962-3-4 were reported by their administrators to have gone to either four-year colleges or other post-high school educational programs, as shown in Table 3.6. In other words, nearly half of the graduating seniors were reported to have enrolled at some post-high school educational institution and about half either did not or their status was unknown. Caution should be exercised when making generalizations from the data in the table. The data do not indicate the extent to which students failed or succeeded in their post-high school education, and the absence of definite information on a large proportion of the graduates makes it impossible to present the total picture. However, additional information about the 1963 graduates may be found in a later chapter.

Since there is little or no vocational education (education for employment) in most of the 21 high schools, the occupational attainments of those graduates who did not enter post-high school educational programs becomes more significant. In nine of the schools, representing more than one-fourth of all of the graduates each year, 60 percent or more of the graduates either did not enter post-high school educational programs or their status was unknown. In only two schools, representing about 10 percent of the graduates, were there less than 40 percent of the graduates in this classification. Obviously, if these data are representative of the general trend for the area, something must be done to make it possible to get more graduates into post-high school programs and to provide more occupational education for some of the students at the high school level.

## C. Economic Aspects of the Region

The economic picture of the region — present employment, employment trends, levels of living — information on the extent to which the region may be capable of helping finance new and expanded programs of vocational and technical education. In turn, a pool of skilled and technical level manpower can be a great asset, affecting in a positive way the economic growth and productivity of the area.

Economically, the picture in the six-county area under study is mainly a reflection of the growing tourist, resort, and recreation business, declining population from rural areas, and to a certain extent, the increased wood products marketing and processing. Wage rates and taxable income are relatively low.

The estimates of effective buying income, shown in Table 3.7, are approximately equal for all of the counties and fall considerably below the state

## TABLE 3.6

## FURTHER EDUCATION OF HIGH SCHOOL GRADUATES (1962-64) REPORTED BY SCHOOL ADMINISTRATORS

| | Graduates Who Entered 4-Year Colleges | | Graduates Who Entered Less Than 4-Year Colleges | | Graduates Who Did Not Enter A College or Status Unknown | | Mean Number High School Graduates |
|---|---|---|---|---|---|---|---|
| County & School | No.[1] | % | No. | % | No. | % | |
| ANTRIM | | | | | | | |
| Central Lake | 3.0 | 14 | 4.3 | 20 | 14.7 | 67 | 22.0 |
| Ellsworth | 4.0 | 21 | 6.0 | 31 | 9.3 | 48 | 19.3 |
| CHARLEVOIX | | | | | | | |
| Boyne City | 13.0 | 20 | 14.0 | 21 | 39.3 | 59 | 66.3 |
| Boyne Falls | 0.3 | .3 | 3.3 | 25 | 8.3 | 69 | 12.0 |
| Charlevoix | 21.0 | 34 | 18.0 | 29 | 22.3 | 36 | 61.3 |
| East Jordan | 9.0 | 19 | 11.0 | 24 | 26.7 | 57 | 46.7 |
| EMMET | | | | | | | |
| Harbor Springs | 8.3 | 19 | 10.0 | 23 | 24.3 | 57 | 42.7 |
| Littlefield (Alanson) | 0.7 | 6 | 3.7 | 34 | 6.7 | 61 | 11.0 |
| Mackinac City | 5.3 | 33 | 3.0 | 18 | 8.0 | 49 | 16.3 |
| Pellston | 3.7 | 8 | 6.0 | 13 | 35.3 | 78 | 45.0 |
| Petoskey | 27.3 | 27 | 30.3 | 30 | 44.7 | 44 | 102.3 |
| St. Francis (Petoskey) | 17.7 | 43 | 7.3 | 18 | 16.3 | 39 | 41.3 |
| CHEBOYGAN | | | | | | | |
| Cheboygan | 18.3 | 23 | 13.7 | 17 | 47.0 | 59 | 79.0 |
| Cheboygan Catholic | 18.7 | 41 | 6.0 | 13 | 21.0 | 46 | 45.7 |
| Inland Lakes (Indian River) | 6.0 | 22 | 0.7 | 3 | 20.3 | 75 | 27.0 |
| Wolverine | 2.7 | 22 | 1.7 | 14 | 8.0 | 65 | 12.3 |
| OTSEGO | | | | | | | |
| Gaylord | 26.7 | 38 | 14.7 | 21 | 28.7 | 41 | 70.0 |
| Johannesburg | 2.0 | 12 | 2.3 | 14 | 12.0 | 74 | 16.3 |
| St. Mary (Gaylord) | 6.7 | 25 | 4.0 | 15 | 15.7 | 60 | 26.3 |
| Vanderbilt | 2.3 | 19 | 3.0 | 25 | 6.7 | 56 | 12.0 |
| PRESQUE ISLE | | | | | | | |
| Onaway | 6.7 | 11 | 9.3 | 15 | 46.3 | 74 | 62.3 |
| TOTAL | 203.4 | 24 | 172.3 | 21 | 461.6 | 55 | 837.1 |

[1] Mean number for years 1962, 1963 and 1964.

Source: Questionnaires sent to the participating high schools of the six counties.

average. From 25 to 35 percent of the families in all six counties had incomes under $3,000 in 1959 when the national average was 21.4 percent. This would seem to indicate a relatively low level ability of many families to find financial resources to support their children in post-high school institutions.

TABLE 3.7

ESTIMATES OF BUYING INCOME, 1963

| County | Effective Buying Income<br>Per Capita | <br>Per Household |
|---|---|---|
| Antrim | $1,427 | $4,684 |
| Charlevoix | 1,552 | 5,260 |
| Cheboygan | 1,421 | 5,129 |
| Emmet | 1,565 | 5,283 |
| Otsego | 1,470 | 5,205 |
| Presque Isle | 1,620 | 5,910 |
| STATE OF MICHIGAN | 2,195 | 7,696 |

Source: "Survey of Buying Power," Sales Management, Inc., June 10, 1964, pp. 390-396.

Reports from the Michigan Department of Revenue indicate the importance of tourists, resorts, and recreation to the economic welfare of the region. The per capita sales tax collections for fiscal year 1964 were above the state average for all of the counties except Presque Isle. Otsego County had the highest collections per capita ($83.39) for the six-county area (State Average, $62.08).

## Other Selected Economic Characteristics

Table 3.8 contains data regarding several selected indexes to the economy of the area. As a whole, they reflect a picture of economic status lower than the state average and point to the need not only for economic development, but for upgrading the labor force. In addition, the data reinforce the previous statements that there is a financial problem of establishing and maintaining improved facilities for vocational-technical education and of finding ways to support youth and adults from low income families while in such vocational training. Some of the key points from Table 3.8 are:

1. Nearly 30 percent of the families had incomes of less than $3,000 in 1959, and this represents a proportion of nearly twice as many as the state average.

2. The proportion of families with high incomes (over $10,000) was very low — about one-third of the state average.

3. The median income was below the state average in all six counties.

4. Unemployment among experienced workers was above the state average.

TABLE 3.8

SELECTED ECONOMIC CHARACTERISTICS OF THE REGION, 1960

| County | Nonworker-Worker Ratios[1] | Unemployed[2] | Median Income of Families[3] | Percent of Families with Incomes of[3] | |
|---|---|---|---|---|---|
| | | | | Under $3,000 | Over $10,000 |
| Antrim | 1.90 | 10.3 | $4,002 | 34.2 | 6.5 |
| Charlevoix | 1.75 | 10.9 | 4,502 | 27.1 | 6.3 |
| Cheboygan | 2.06 | 13.0 | 4,291 | 34.4 | 6.3 |
| Emmet | 1.74 | 10.7 | 4,694 | 26.7 | 5.5 |
| Otsego | 1.84 | 8.9 | 4,556 | 27.3 | 6.1 |
| Presque Isle | 1.96 | 5.3 | 5,140 | 25.5 | 9.5 |
| STATE | 1.66 | 6.9 | 6,256 | 15.7 | 17.4 |

Source: Michigan Statistical Abstract (5th ed.; East Lansing: Michigan State University, Bureau of Business and Economic Research, 1964).

[1] Ratio of persons not in labor force (including children under 14) to labor force.

[2] As of April 1, 1960.

[3] Based on income for the year 1959.

The property values for the area are reflected in the assessed and state equalized valuations, as shown in Table 3.9. Since the local property tax is a major source of funds for education the SEV (state equalized valuation) represents an important index to the ability of the local area to support education. In general, the SEV, in the area under study, when placed on a per student basis, is below the average for the state — in other words one mill of tax levy will yield fewer dollars per student in the school districts included in this study than in many other areas of the state.

TABLE 3.9

ASSESSED AND EQUALIZED VALUATION FOR SIX NORTHERN MICHIGAN COUNTIES: MAY 24, 1965

| County | Values as Assessed by Supervisors 1965 | Equalized Valuation by County Board of Supervisors, 1965 | Amount Added to Assessed by State Board of Equalization, 1965 | Aggregate of Valuation as Equalized by State Board of Equalization, 1965 |
|---|---|---|---|---|
| Antrim | $ 18,443,473 | 50,287,050 | 31,833,577 | 50,287,050 |
| Charlevoix | 55,506,143 | 55,763,300 | 257,157 | 55,763,300 |
| Cheboygan | 40,047,368 | 44,390,324 | 21,235,855 | 61,283,223 |
| Emmet | 37,491,807 | 56,212,094 | 18,720,287 | 56,212,094 |
| Otsego | 24,069,994 | 31,015,320 | 6,945,326 | 31,015,320 |
| Presque Isle | 23,999,461 | 34,363,213 | 10,363,752 | 34,363,213 |
| TOTAL | 199,558,246 | 272,031,301 | 89,355,954 | 288,924,200 |

Source: Report from Office of State Board of Equalization, Lansing, May 24, 1965.

## D. Employment in the Six-County Area

Employment in the six-county area of both male and female workers by the major occupational groups is shown in Table 3.10. The table also shows trends of about a 20-year period 1940 to 1960. Detailed analysis of the table is reported in the separate sections dealing with the occupational specialities; however, some major trends have been noted. The overall number of employed males decreased slightly while the number of employed females doubled during the 20-year period.

Employment in farming occupations has decreased steadily in all six counties. However, employment of professional, technical, and kindred workers showed increases for both male and female employees in all six counties.

TABLE 3.10

EMPLOYED WORKERS BY MAJOR OCCUPATION

| Major Occupations | Antrim County | | | Charlevoix County | | | Cheboygan County | | | Emmet County | | | Otsego County | | | Presque Isle County | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1940 | 1950 | 1960 | 1940 | 1950 | 1960 | 1940 | 1950 | 1960 | 1940 | 1950 | 1960 | 1940 | 1950 | 1960 | 1940 | 1950 | 1960 | 1940 | 1950 | 1960 |
| Employed - Male | 2,699 | 2,699 | 2,295 | 3,092 | 3,176 | 2,928 | 2,973 | 2,957 | 2,871 | 3,664 | 3,925 | 3,372 | 1,334 | 1,662 | 1,678 | 3,109 | 3,152 | 3,248 | 16,871 | 17,571 | 16,392 |
| Professional, technical, and kindred workers | 105 | 121 | 155 | 125 | 155 | 233 | 124 | 141 | 225 | 166 | 224 | 302 | 51 | 89 | 104 | 108 | 117 | 176 | 679 | 847 | 1,195 |
| Farmers and farm managers | 962 | 817 | 280 | 1,002 | 670 | 224 | 978 | 610 | 204 | 824 | 620 | 220 | 439 | 351 | 146 | 967 | 762 | 398 | 5,192 | 3,830 | 1,472 |
| Managers, officials, and props., except farm | 209 | 236 | 288 | 285 | 322 | 343 | 295 | 339 | 499 | 461 | 468 | 509 | 145 | 222 | 286 | 217 | 272 | 389 | 1,612 | 1,859 | 2,314 |
| Clerical and kindred workers | 107 | 59 | 81 | 182 | 123 | 80 | 208 | 100 | 162 | 336 | 141 | 157 | 79 | 40 | 80 | 133 | 70 | 108 | 1,045 | 533 | 668 |
| Sales workers | * | 107 | 90 | * | 152 | 198 | * | 153 | 146 | * | 259 | 240 | * | 89 | 75 | * | 92 | 108 | * | 852 | 857 |
| Craftsmen, foremen, and kindred workers | 172 | 347 | 421 | 294 | 507 | 626 | 321 | 506 | 525 | 470 | 741 | 658 | 72 | 214 | 302 | 313 | 504 | 605 | 1,642 | 2,819 | 3,137 |
| Operatives and kindred workers | 188 | 299 | 628 | 370 | 576 | 672 | 323 | 430 | 532 | 478 | 746 | 609 | 112 | 280 | 409 | 434 | 567 | 880 | 1,905 | 2,898 | 3,730 |
| Private household workers | 2 | 1 | 8 | - | 15 | 17 | 1 | 6 | 17 | 7 | 14 | 16 | - | 2 | - | 3 | 1 | - | 13 | 39 | 58 |
| Service workers, except private household | 61 | 80 | 85 | 127 | 133 | 195 | 111 | 194 | 156 | 155 | 192 | 188 | 68 | 92 | 125 | 100 | 114 | 205 | 622 | 805 | 954 |
| Farm laborers, unpaid family workers | 239 | 180 | 119 | 197 | 102 | 72 | 173 | 89 | 63 | 197 | 29 | 78 | 193 | 15 | 20 | 443 | 212 | 143 | 1,442 | 627 | 495 |
| Farm laborers, except unpaid, and farm foremen | 252 | 162 | * | 167 | 91 | * | 181 | 104 | * | 193 | 132 | * | 48 | 111 | * | 142 | 156 | * | 983 | 756 | * |
| Laborers, except farm and mine | 369 | 232 | 161 | 313 | 304 | 220 | 236 | 239 | 217 | 332 | 318 | 322 | 107 | 131 | 95 | 235 | 241 | 195 | 1,592 | 1,465 | 1,210 |
| Occupation not reported | 13 | 28 | 39 | 30 | 23 | 48 | 22 | 46 | 125 | 45 | 41 | 73 | 20 | 26 | 36 | 14 | 44 | 41 | 144 | 208 | 362 |
| Employed - Female | 386 | 590 | 903 | 615 | 791 | 1,392 | 623 | 805 | 1,392 | 1,009 | 1,462 | 1,802 | 267 | 456 | 742 | 582 | 700 | 903 | 3,482 | 4,804 | 6,850 |
| Professional, technical, and kindred workers | 90 | 84 | 118 | 103 | 143 | 170 | 83 | 134 | 148 | 209 | 258 | 248 | 55 | 76 | 65 | 95 | 102 | 160 | 635 | 797 | 909 |
| Farmers and farm managers | 51 | 24 | 18 | 50 | 12 | 12 | 59 | 10 | 9 | 37 | 12 | 8 | 25 | 10 | 4 | 48 | 16 | 10 | 270 | 84 | 61 |
| Managers, officials, and props., except farm | 23 | 38 | 37 | 43 | 58 | 60 | 140 | 71 | 53 | 42 | 81 | 123 | 16 | 30 | 39 | 26 | 28 | 37 | 290 | 306 | 349 |
| Clerical and kindred workers | 54 | 83 | 167 | 112 | 169 | 262 | 126 | 129 | 218 | 260 | 309 | 424 | 57 | 72 | 130 | 87 | 96 | 157 | 696 | 858 | 1,358 |
| Sales workers | * | 84 | 74 | * | 95 | 101 | * | 85 | 99 | * | 184 | 171 | * | 41 | 44 | * | 76 | 120 | * | 565 | 609 |
| Craftsmen, foremen, and kindred workers | 1 | 10 | 11 | 4 | 8 | 10 | 4 | 14 | 3 | 6 | 13 | 8 | - | 2 | 5 | 9 | 8 | 4 | 24 | 55 | 41 |
| Operatives and kindred workers | 4 | 38 | 197 | 46 | 34 | 294 | 113 | 109 | 78 | 50 | 109 | 72 | 11 | 69 | 146 | 128 | 50 | 86 | 352 | 409 | 873 |
| Private household workers | 103 | 47 | 92 | 132 | 89 | 134 | 95 | 50 | 120 | 207 | 154 | 238 | 40 | 21 | 49 | 124 | 61 | 45 | 701 | 422 | 678 |
| Service workers, except private household | 42 | 94 | 147 | 93 | 131 | 257 | 85 | 167 | 283 | 176 | 287 | 447 | 44 | 105 | 231 | 50 | 90 | 189 | 490 | 874 | 1,554 |
| Farm laborers, unpaid family workers | 5 | 57 | 13 | 21 | 22 | 17 | 6 | 13 | 10 | 9 | 19 | - | 6 | 7 | - | 5 | 95 | 66 | 52 | 213 | 106 |
| Farm laborers, except unpaid, and farm foremen | 2 | 19 | * | 1 | 5 | * | 1 | 4 | * | 1 | 7 | * | - | 18 | * | 1 | 13 | * | 6 | 66 | * |
| Laborers, except farm and mine | 3 | 4 | 4 | 1 | 9 | 8 | 4 | 2 | - | 1 | 5 | 4 | 1 | 3 | - | - | 4 | 4 | 10 | 27 | 20 |
| Occupation not reported | 8 | 8 | 25 | 9 | 16 | 67 | 7 | 17 | 87 | 11 | 24 | 59 | 12 | 2 | 29 | 9 | 61 | 25 | 56 | 128 | 292 |

*Included in above figure.
Source: U. S. Census.

The clerical-secretarial field showed a small increase for male employees but the number of female workers grew more than 180 percent.

The employment of craftsmen and foremen showed remarkable growths, almost doubling during the 1940-1960 period. A similar growth appears in the employment of operatives and other semi-skilled workers although the rate of increase for female employment in this area from 1940-1960 is high — more than 100 percent, in spite of a decrease in Cheboygan and Presque Isle counties.

The employment of service workers, especially females, increased considerably during the 20-year period. However, private household employees decreased in number during the same period.

## Employment in the Area by Major Occupations

Knowing the kind of industry in which people work is helpful in knowing the general economic pattern for the area. However, when planning programs of vocational education, it is far more important to know the occupations in which people work because the skills and understandings needed by workers to perform the activities expected of them in the jobs help determine the instructional content to be provided by the school. Table 3.11 shows the distribution of employment in the six counties according to major occupational groups and also provides a longitudinal analysis of change from 1940 to 1960.

More people (almost one-fifth) in the labor force are employed as operatives and kindred workers than in any other occupational group. These jobs are typically in manufacturing or processing plants and are almost always semi-skilled in nature. Often, and other tables support this, the majority of operatives are women workers, often employed at low wage rates. Approximately 14 percent of the labor force are craftsmen, foremen and other skilled workers dealing with industrial processes. Such workers are found not only in manufacturing firms, but also in construction operations and in repair and service establishments.

In the six counties approximately equal numbers of people are employed in the professional and technical occupations, the managerial occupations, the clerical and office occupations, and the service occupations.

Changes in the numbers of people employed in the various occupational groups have been very marked since 1940. The number of farmers and farm managers declined by more than 70 percent while declines have also appeared in the unskilled areas such as farm laborers and laborers. Increases of more than 100 percent have occurred in service workers (except private

TABLE 3.11

CHANGES IN EMPLOYMENT IN THE SIX COUNTIES SHOWN BY MAJOR OCCUPATION, 1940 to 1960

| Occupation in which Employed | 1940 | 1960 | % Each Category Is of Total Employment | % Change from 1940-1960 |
|---|---|---|---|---|
| Total Employed — Male and Female | 20,353 | 23,242 | 100.00 | |
| Professional, technical, and kindred workers | 1,314 | 2,104 | 9.05 | 52.51 |
| Farmers and farm managers | 5,462 | 1,533 | 6.60 | -71.93 |
| Managers, officials, and props., except farm | 1,902 | 2,663 | 11.46 | 40.01 |
| Clerical and kindred workers | 1,741 | 2,026 | 8.72 | 16.37 |
| Sales workers | ** | 1,466 | 6.31 | -- |
| Craftsmen, foremen, and kindred workers | 1,666 | 3,178 | 13.67 | 90.76 |
| Operatives and kindred workers | 2,257 | 4,603 | 19.80 | 103.94 |
| Private household workers | 714 | 736 | 3.17 | 3.08 |
| Service workers, except private household | 1,112 | 2,508 | 10.79 | 125.54 |
| Farm laborers, unpaid family workers | 1,494 | 601 | 43.03 | -59.77 |
| Farm laborers, except unpaid, and farm foremen | 989 | ** | -- | -- |
| Laborers, except farm and mine | 1,602 | 1,230 | 5.29 | -23.22 |
| Occupation not reported | 200 | 654 | 2.81 | 227.00 |

Source: U. S. Census of Population, 1960.

**Included in figure on line above.

household) and operatives. There was about a 90 percent increase in craftsmen, foremen and kindred workers. The picture is an obvious one: The six-county area has undergone farm consolidation and changed land use with increased employment in manufacturing and processing, and even more significantly, in the provision of goods and services, many of which result from serving the tourists, hunters, fishermen, and winter sports enthusiasts. (Note: Additional labor force data by counties are shown in Appendix A.)

### Major Sources of Employment

The industry groups which provide the majority of the employment in the six counties are shown in Table 3.12. Generally, the six counties are similar in employment structure with manufacturing, distributive and service trades providing the bulk of the employment, except in Presque Isle where employment in mining (limestone quarries) and utilities is relatively high. Several aspects of the table have major significance for this study.

Manufacturing provides not more than 30 percent of the jobs which is a figure far below the state average. In fact, in only three counties does manufacturing employ more than 20 percent of the labor force. The employment in professional services is considerably higher in Emmet County than in the other counties, reflecting the health, medical, and educational facilities located there and the usual greater concentration of professional people in the more urban areas.

In two of the counties more than two-fifths of the labor force is employed in the distribution of goods and services, including retail and wholesale trade, finance, insurance, real estate, business, repair and personal services. It should be realized that the number employed in the distribution area is actually far greater than the table shows because of the additions to the work force during the tourist season of both full-time and part-time people.

In summary, Table 3.12 shows that the six-county area is dominated by a business economy providing goods and services including those of the health and education professions as well as for the tourism and recreation which are so important. Production and processing are not the major sources of employment and opportunities in these fields are limited compared to other areas of Michigan.

## E. Relationships to Adjacent Areas

The six-county region under study lacks a strong central focus when viewed economically and educationally. Rather, it is characterized by relatively small units which have strong feelings about their own immediate areas.

## TABLE 3.12

## SUMMARY OF EMPLOYMENT IN SIX COUNTIES BY MAJOR INDUSTRY GROUP, 1960

| Major Industry Group | Counties | | | | | |
|---|---|---|---|---|---|---|
| | Antrim | Charlevoix | Cheboygan | Emmet | Otsego | Presque Isle |
| 1. Agriculture, Fisheries & Forestry | 484<br>(15.1)* | 387<br>(9.0) | 327<br>(8.2) | 366<br>(7.1) | 207<br>(8.6) | 641<br>(15.4) |
| 2. Mining | 0 | 0 | 8<br>(0.2) | - | 5<br>(0.2) | 733<br>(17.7) |
| 3. Construction | 252<br>(7.9) | 320<br>(7.4) | 469<br>(11.8) | 468<br>(9.0) | 184<br>(7.6) | 171<br>(4.1) |
| 4. Manufacturing | 968<br>(30.3) | 1,166<br>(27.0) | 663<br>(16.7) | 681<br>(13.2) | 579<br>(23.9) | 475<br>(11.4) |
| 5. Utilities[1] | 113<br>(3.5) | 221<br>(5.1) | 247<br>(6.2) | 434<br>(8.4) | 91<br>(3.8) | 675<br>(16.3) |
| 6. Trade[2] | 457<br>(14.3) | 772<br>(17.9) | 960<br>(24.1) | 1,447<br>(30.0) | 479<br>(19.8) | 675<br>(16.3) |
| 7. Finance, Insurance and Real Estate | 72<br>(2.3) | 109<br>(2.5) | 150<br>(3.8) | 124<br>(2.4) | 59<br>(2.4) | 66<br>(1.6) |
| 8. Business, Repair and Personal Service | 305<br>(9.5) | 630<br>(14.6) | 509<br>(12.8) | 590<br>(11.4) | 323<br>(13.3) | 214<br>(5.2) |
| 9. Other Services[3] | 387<br>(12.1) | 500<br>(11.6) | 378<br>(9.5) | 973<br>(18.8) | 306<br>(12.6) | 454<br>(10.9) |
| 10. Public Admin. | 114<br>(3.6) | 164<br>(3.8) | 173<br>(4.3) | 183<br>(3.5) | 156<br>(6.5) | 108<br>(2.6) |
| 11. Industry not Reported | 46<br>(1.4) | 80<br>(1.9) | 112<br>(2.8) | 110<br>(2.1) | 47<br>(1.9) | 13<br>(0.3) |

Source: U. S. Census of Population, 1960.

*Denotes percentage item is of county total.

[1] Includes transportation, communication, and other utilities.

[2] Includes wholesale and retail trade.

[3] Includes medical & health, education, and other professions & related services.

Most of the population is on the perimeter of each county, with the exception of Gaylord in Otsego County. There are active Chambers of Commerce functioning in at least ten of the population centers but no strong regional chamber.

The region to the east, consisting of the major portion of Presque Isle County and four other counties — Alcona, Alpena, Montmorency, and Oscoda — is to be the subject of an area vocational study similar to this study. Crawford County to the south, while in neither this study nor the Grand Traverse Area study, might logically look either to the north (Gaylord and Petoskey) or to the west (Traverse City) to affiliate with any vocational-technical education centers located there.

Two school districts in Antrim County (Ellsworth and Central Lake) while included in this study, are "swing districts." The people in the area look to both the north (Petoskey) and south (Traverse City) for some of their needs — shopping, banking, newspapers, TV, health services, etc.

# CHAPTER 4

## OCCUPATIONAL INTERESTS OF 11TH GRADERS AND THEIR PARENTS*

Principals in all public and parochial high schools administered on a given day an occupational interest questionnaire to all 11th graders present. At the same time, each student was given a questionnaire in an envelope addressed to his parents. Both instruments were to be returned unsigned. Several questions were similar on both instruments.

What Parents and Youth Think Important in a Job. Among the factors that greatly influence the choice of an occupation, and therefore preparation for it, are the beliefs of youth and their parents about what is important in a job. Many times, young people are criticized for wanting high pay and not much else in a job. The 11th graders in the Top-O-Michigan area do not apparently view high pay as the most important job factor as their responses in Table 4.1 show. The three most important job factors to them are in order: "a chance for advancement," "security," and "nice working conditions." The same three factors are most important also to the parents although the "chance for advancement" ranks first and "nice working conditions" was important to almost twice as many parents as students.

As Table 4.1 indicates, the responses of parents and children are very similar with but one major difference — "high pay." Twice as many parents as students value "high pay" as an important job factor. The patterns of responses are generally alike for all counties. However, Cheboygan and Presque Isle respondents appear more concerned with "security" and "being able to find a job" possibly reflecting depressed conditions in these areas. In general, the beliefs of students and their parents can be viewed as being realistic in a modern world.

Parent Belief About the Academic Ability of Their Child. A significant factor in a parent's being willing to support a post high school institution and in the guidance he gives his child rests in his belief about his child's academic ability. The parents were asked to estimate ability to profit from three kinds of post high school education or training: business or trade training, junior college work, and completion of the baccalaureate degree. Table 4.2 shows these beliefs.

About 40% of the 11th grade parents say their child has the ability to complete college with the proportion rising to 49% in Cheboygan County. Parents

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*Written principally by Dr. Peter Haines.

### TABLE 4.1

### BELIEFS OF 11TH GRADERS AND THEIR PARENTS ABOUT FACTORS MOST IMPORTANT IN A JOB

| Factors Deemed Important in a Job | Antrim | | Charlevoix | | Cheboygan | | Emmet | | Otsego | | Presque Isle | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | P[1] | St[2] | P | St | P | St | P | St | P | St | P | St | P | St |
| (Not in order of importance) | % | % | % | % | % | % | % | % | % | % | % | % | % | % |
| 1. Security | 21 | 13 | 32 | 35 | 32 | 40 | 21 | 30 | 29 | 32 | 36 | 40 | 28 | 34 |
| 2. High Pay | 12 | 0 | 7 | 5 | 10 | 2 | 13 | 9 | 13 | 1 | 10 | 2 | 11 | 5 |
| 3. Nice Working Conditions | 26 | 3 | 21 | 13 | 16 | 14 | 21 | 10 | 11 | 11 | 11 | 1 | 18 | 11 |
| 4. Prestige | 2 | 0 | 1 | 2 | 1 | 1 | 2 | 1 | 3 | 3 | 1 | 0 | 2 | 1 |
| 5. Chance for Advancement | 26 | 21 | 32 | 39 | 27 | 31 | 29 | 41 | 31 | 42 | 34 | 35 | 30 | 39 |
| 6. Being Able to Find a Job | 10 | 6 | 1 | 5 | 6 | 11 | 3 | 7 | 5 | 8 | 3 | 14 | 4 | 8 |
| 7. Others such as:<br>a. liking what you do,<br>b. interesting,<br>c. contentment,<br>d. helping others | 2 | 0 | 5 | 0 | 7 | 0 | 9 | 0 | 7 | 0 | 3 | 0 | 7 | 0 |
| 8. No Response | 1 | 57 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 3 | 2 | 5 | 0 | 2 |

Source: Questionnaire administered by school administrator.

[1] Parents of 11th Graders.

[2] 11th Graders.

TABLE 4.2

11TH GRADE PARENT'S OPINIONS ABOUT
THE ABILITY OF THEIR CHILD TO
UNDERTAKE EDUCATION BEYOND THE HIGH SCHOOL

| Question: "Do you think your child has the ability to take further educational training?" | Antrim | Charlevoix | Cheboygan | Emmet | Otsego | Presque Isle | Total |
|---|---|---|---|---|---|---|---|
| 1. "I think my child has the ability to take further training --Business school, technical or trade school." | 50 | 39 | 14 | 35 | 48 | 47 | 38 |
| 2. "I think my child has the ability to complete junior or community college." | 6 | 12 | 14 | 15 | 13 | 16 | 13 |
| 3. "I think my child has the ability to take a four-year college program." | 33 | 43 | 49 | 43 | 33 | 19 | 40 |
| 4. "Don't know." | 11 | 4 | 14 | 7 | 6 | 9 | 7 |
| 5. No Response | 0 | 2 | 9 | 0 | 0 | 9 | 2 |

Source: Questionnaire administered by school administrators.

appear to be realistic about the abilities of their children although in the three most populous counties the ability to complete college is more widely believed than a normal distribution of intelligence in a high school class would support. This over-estimate probably reflects parent aspiration. Generally the estimates of ability are similar among parents in the counties although some differences exist as Table 4.2 shows, particularly the lesser beliefs in Otsego and Presque Isle Counties.

Although some parents are somewhat overestimating the ability of their youngsters, this natural esteem will help motivate many to achieve providing undue pressure for success is not forced.

People Affecting Occupational Choice. Who influences the occupational choices of the 11th graders? The youth in the Top-O-Michigan area believe that their parents have the most influence, but teachers are also given considerable credit. Unfortunately, the students do not believe that their school counselors have had much influence, ranking them equal with the advice of fellow students. In most schools occupational counseling was found to be very limited.

TABLE 4.3

11TH GRADERS' BELIEFS REGARDING WHO HAS INFLUENCED GREATLY THEIR OCCUPATIONAL CHOICE

| | Antrim | Charlevoix | Cheboygan | Emmet | Otsego | Presque Isle | Total |
|---|---|---|---|---|---|---|---|
| 1. Mother | 23 | 19 | 23 | 22 | 23 | 20 | 21 |
| 2. Father | 35 | 21 | 20 | 19 | 18 | 23 | 20 |
| 3. Grandparents | 0 | 2 | 5 | 4 | 1 | 4 | 3 |
| 4. Older Brothers and Sisters | 6 | 8 | 9 | 9 | 7 | 12 | 8 |
| 5. Teachers | 12 | 14 | 15 | 15 | 16 | 14 | 15 |
| 6. Counselors | 0 | 9 | 2 | 9 | 7 | 2 | 7 |
| 7. Fellow Students | 12 | 8 | 10 | 7 | 13 | 9 | 9 |
| 8. Other | 12 | 14 | 9 | 12 | 10 | 14 | 12 |
| 9. No Response | 0 | 5 | 7 | 3 | 5 | 2 | 5 |

Source: Questionnaire administered by school administrator.

The parents believe that the school should provide more occupational counseling; over 80% of those queried felt this way. In addition, more than three out of four parents believed that the school should provide a placement service for its graduates.

Parents Views About High School Vocational Curricula. The parents of the 11th graders were asked to express positive and negative opinions regarding the possibility of their children enrolling in vocational courses while still in high school. As might be expected, the choices were many and varied. Generally, the industrial and business courses were most often favored; very few thought that agricultural education was desirable for their child, but it should be clear that parents were thinking about females as well as males and that this would influence their responses. A good many parents checked the "have no feeling" response which in many cases is probably the result of their wanting the child to make the decision without undue adult pressure. (See Table 4.4. Note: The views of parents in the Top-O-Michigan area parallel very closely those of parents as reported in the Grand Traverse area study.)

Vocational-Technical Curriculum Preferences. If a vocational-technical institute were available in the Top-O-Michigan area, what curricula would appeal to present high school students? As Table 4.5 shows, about 25% of the students said that either they did not want further education or that they intended to enroll in a four-year institution.

The second largest group (about one out of six) preferred enrolling in a secretarial/office curriculum. Another 5% were interested in the area of distribution. Thus, about one out of four students chose a curriculum in the area of business.

Approximately 13% indicated interest in the skilled trades area while an additional 8% were interested in the industrial-technical curricula. Thus about one out of five students polled were interested in curricula in the industrial education area.

The health occupations including nursing were chosen by about one out of ten students. A scattering of other curricula were mentioned by students and accounted for 13% of the choices. Again, the great similarity between responses of these students and those in the Grand Traverse area is remarkable.

Parents' Beliefs About the Need for a Vocational Institute. The parents of 11th graders in the Top-O-Michigan area overwhelmingly believe in the need for a vocational-technical institute to serve the area. As Table 4.6 demonstrates, eight out of ten parents say that there is a definite need for such an educational institution.

Although parents believe that there is a need, the question remains as to whether they would support such a school. They were asked whether they would vote for additional tax levies on themselves if the vocational (non-collegiate) programs were tuition-free or of low tuition. Over half of the parents said they would vote for an additional levy. Importantly, as Table 4.7 shows, only 7% were against additional taxes while 34% were undecided. Presumably, this latter group would want to know more about the character of the school and the amount of the levy to support it before voting "yes."

TABLE 4.4

PARENTS OF 11TH GRADERS AND THEIR DESIRES TO HAVE THEIR CHILDREN ENROLLED IN VOCATIONAL EDUCATION COURSES

| | Antrim | | | Charlevoix | | | Cheboygan | | | Emmet | | | Otsego | | | Presque Isle | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Yes | No | Have No Feeling | Yes | No | Have No Feeling | Yes | No | Have No Feeling | Yes | No | Have No Feeling | Yes | No | Have No Feeling | Yes | No | Have No Feeling | Yes | No | Have No Feeling |
| 1. Trade and Industrial | 33 | 0 | 25 | 35 | 4 | 20 | 22 | 24 | 18 | 26 | 15 | 18 | 25 | 17 | 22 | 17 | 0 | 33 | 28 | 15 | 20 |
| 2. Sales, Marketing, Retailing (Dist. Ed.) | 7 | 0 | 25 | 13 | 25 | 14 | 10 | 19 | 18 | 13 | 15 | 18 | 11 | 17 | 22 | 14 | 0 | 17 | 12 | 18 | 17 |
| 3. Business Education (Office) | 33 | 0 | 0 | 25 | 12 | 11 | 36 | 9 | 0 | 28 | 9 | 13 | 33 | 11 | 11 | 27 | 0 | 33 | 29 | 11 | 12 |
| 4. Home Economics | 10 | 0 | 25 | 8 | 21 | 14 | 13 | 9 | 9 | 12 | 19 | 18 | 10 | 14 | 11 | 9 | 0 | 0 | 10 | 16 | 14 |
| 5. Agricultural Education | 7 | 100 | 0 | 5 | 21 | 17 | 4 | 24 | 18 | 3 | 22 | 18 | 6 | 29 | 11 | 5 | 0 | 17 | 4 | 25 | 16 |
| 6. None of These — Want him to have General College preparatory only | 10 | 0 | 25 | 14 | 17 | 23 | 15 | 14 | 36 | 18 | 19 | 15 | 13 | 11 | 22 | 9 | 0 | 0 | 15 | 15 | 20 |
| 7. No Response | 0 | 0 | 0 | | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 2 | 1 | 1 | 19 | 0 | 0 | 2 | 0 | 1 |
| TOTAL | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0 | 100 | 100 | 100 | 100 |

Source: Questionnaires administered by school administrators.

Note: Parents were asked to check one or more curricula, thus each figure shown is a percentage of total number of responses (in that particular column).

TABLE 4.5

CURRICULUM PREFERENCES OF 11TH GRADERS REGARDING THEIR FUTURE EDUCATION IN A VOCATIONAL-TECHNICAL INSTITUTE

| Response to Question: "If a vocational-technical school were available in T-O-M area after your graduation, (a) What curriculum would you be interested in?" | Antrim | Charlevoix | Cheboygan | Emmet | Otsego | Presque Isle | Total |
|---|---|---|---|---|---|---|---|
| 1. None — prefer not to attend a vocational/technical school or want to go to a four-year college | 13 | 29 | 21 | 31 | 15 | 18 | 25 |
| 2. Agriculture (farming or farm-related job) | 9 | 6 | 3 | 2 | 5 | 3 | 4 |
| 3. Secretarial/office | 9 | 14 | 18 | 16 | 22 | 11 | 16 |
| 4. Retailing | 4 | 1 | 2 | 2 | 1 | 0 | 2 |
| 5. Sales | 0 | 1 | 1 | 1 | 0 | 2 | 1 |
| 6. Distributive job such as real estate, hotel-motel, other | 0 | 1 | 2 | 2 | 1 | 0 | 1 |
| 7. Skilled trade such as auto mechanic, carpenter, electrician | 13 | 13 | 15 | 10 | 11 | 23 | 13 |
| 8. Technical job such as electronics technician, draftsman | 9 | 8 | 6 | 9 | 6 | 5 | 8 |
| 9. Nursing | 13 | 9 | 12 | 8 | 9 | 8 | 9 |
| 10. Bookkeeping/Accounting | 9 | 3 | 5 | 7 | 9 | 0 | 6 |
| 11. Others | 21 | 14 | 11 | 7 | 20 | 26 | 14 |
| 12. No Response | 0 | 1 | 4 | 5 | 1 | 4 | 1 |

Source: Questionnaire administered by school administrator.

## TABLE 4.6

## WHAT PARENTS OF 11TH GRADERS BELIEVE ABOUT THE NEED FOR A VOCATIONAL-TECHNICAL INSTITUTE

| | Antrim | Charlevoix | Cheboygan | Emmet | Otsego | Presque Isle | Total |
|---|---|---|---|---|---|---|---|
| 1. ...believe a V-T Institute should be established | 100 | 85 | 78 | 84 | 90 | 81 | 85 |
| 2. ...believe one should not be established | 0 | 3 | 2 | 3 | 0 | 0 | 2 |
| 3. Percentage who don't know | 0 | 11 | 12 | 11 | 7 | 10 | 10 |
| 4. No Response | 0 | 1 | 8 | 2 | 3 | 9 | 3 |

Source: Questionnaire administered by school administrator.

## TABLE 4.7

## PARENTS OF 11TH GRADERS AND THEIR INTERESTS IN SUPPORTING A VOCATIONAL-TECHNICAL INSTITUTE

Response to question:

"If a vocational-technical institute were to be established, would you vote for additional levies to support it if tuition were free or quite low?" (Assuming a tax increase of no more than 5% of what you are now paying.)

| | Antrim | Charlevoix | Cheboygan | Emmet | Otsego | Presque Isle | Total |
|---|---|---|---|---|---|---|---|
| Percentage who would vote yes | 39 | 54 | 49 | 50 | 68 | 45 | 55 |
| Percentage who would vote no | 6 | 7 | 9 | 8 | 5 | 0 | 7 |
| Percentage who don't know at this point | 50 | 33 | 34 | 39 | 21 | 23 | 34 |
| No response | 5 | 6 | 8 | 3 | 6 | 32 | 4 |

Source: Questionnaire administered by school administrator.

Student Ability to Finance Further Education. If a student is to enroll for one or two years in a vocational-technical institute, the question arises of financing his attendance. He not only has need for tuition, but also for books and supplies, transportation, living expenses, and at least a minimum of personal needs.

As Table 4.8 shows, from about 15% of the parents reported that they could meet completely the financial needs of their son or daughter while attending a vocational-technical institute, while 38% indicated that they could give partial support. Thus, over half of the 11th graders could get major support from home to cover their expenses of one or two years of further education. Generally less than one out of ten parents could give their child no financial support.

TABLE 4.8

11TH GRADERS' ABILITIES TO BE SUPPORTED WHILE ATTENDING ONE-TWO YEARS IN A VOCATIONAL-TECHNICAL INSTITUTE (ALL FIGURES ARE IN PERCENTAGE)

| | Antrim | Charlevoix | Cheboygan | Emmet | Otsego | Presque Isle | Total |
|---|---|---|---|---|---|---|---|
| A. Student Report on Self: | | | | | | | |
| 1. Could commute up to 25-40 miles | | | | | | | |
| Yes | 40 | 41 | 36 | 39 | 38 | 58 | 40 |
| No | 0 | 8 | 4 | 10 | 7 | 8 | 8 |
| Don't know | 60 | 39 | 48 | 43 | 46 | 25 | 43 |
| No Response | 0 | 12 | 12 | 8 | 9 | 9 | 9 |
| 2. Would work... to earn tuition and expenses | | | | | | | |
| Yes | 67 | 73 | 74 | 78 | 77 | 76 | 75 |
| No | 0 | 4 | 2 | 6 | 2 | 5 | 4 |
| Don't know | 33 | 11 | 12 | 9 | 13 | 10 | 11 |
| No Response | 0 | 12 | 11 | 7 | 8 | 9 | 10 |
| B. Parent's Beliefs:* | | | | | | | |
| 1. Would not be able to help | 5 | 10 | 8 | 12 | 4 | 11 | 9 |
| 2. Would be able if he lives at home | 16 | 33 | 38 | 31 | 32 | 26 | 32 |

TABLE 4.8--Continued

| | Antrim | Charle-voix | Cheboy-gan | Emmet | Otsego | Presque Isle | Total |
|---|---|---|---|---|---|---|---|
| 3. Partial support | 74 | 36 | 32 | 40 | 38 | 34 | 38 |
| 4. Completely support him | 5 | 15 | 16 | 14 | 23 | 17 | 16 |
| 5. No Response | 0 | 6 | 6 | 3 | 3 | 12 | 5 |

Source: Questionnaire administered by school administrator.

*Question: "Do you anticipate being able to support your son or daughter in a vocational-technical institute in the T-O-M area if one is available, giving 1-2 years of post high education?"

The 11th graders were queried as to what they could do to help finance their education. A large majority of these young people reported that they were willing to work part-time and summers to finance their further education in a vocational-technical institute. Assuming they averaged 20 hours per week for 30 weeks part-time and 40 hours for 10 weeks summers, they would each gross at a minimum:

1,000 hours x $1.25 min. wage = $1,250
Possible tuition per year (Comm. College) = $300.

If employment is available and the student has the capacity to work while maintaining education achievement standards, it is quite possible for most students to finance their education with partial support from their parents.

A high-cost aspect of a student's post high school education is his living away-from-home expenses which can amount to $600-$1,000 per year or more. Being able to commute is a major factor in student retention in any vocational-technical institute, especially in a low income area. About 40% of the students queried reported they could commute 25-40 miles. This range would not bring students from one end of the study area to a school located at the other side. Presumably the students who did not know if they could commute were not in a position to determine if they could afford an automobile.

Student Desires Concerning Migration. How do the present 11th graders feel about moving away? As Table 4.9 shows, only one out of four definitely wishes to move to a larger community away from the Top-O-Michigan area. About one in three definitely wishes to remain in the area. Significantly about 40% of the 11th graders say, "it depends." Presumably, the chance for employment of their choice and gaining the necessary education to further that choice are among the factors that will cause students to stay or migrate. Certainly other factors such as marriage, movement of family, and going away to college will influence these young people in later years.

TABLE 4.9

PREFERENCES OF 11TH GRADERS REGARDING REMAINING IN THE TOP-O-MICHIGAN AREA (ALL FIGURES ARE PERCENTAGES)

| Response to Question: "After finishing school do you:" | Antrim | Charlevoix | Cheboygan | Emmet | Otsego | Presque Isle | Total |
|---|---|---|---|---|---|---|---|
| 1. Prefer to remain in the . . . Area if you can find a job? | 9 | 41 | 29 | 39 | 21 | 22 | 33 |
| 2. Want to move to a larger community away from the . . . Area? | 27 | 17 | 30 | 22 | 31 | 38 | 25 |
| 3. Don't know — it depends. | 64 | 40 | 39 | 36 | 45 | 40 | 40 |
| 4. No Response | 0 | 2 | 2 | 3 | 3 | 0 | 2 |

Source: Questionnaire administered by school administrator.

Career Interests of 11th Graders. A comparison has been made of the career interests of 11th graders and their parents as shown by Table 4.10. In general, the occupational aspirations are realistic in that they pattern themselves after the occupational distributions in our society. Further, the students, unlike some queried in other schools, do not all aspire to professional careers. On the other hand, analysis of the responses leads to two questions which remain unanswered:

1. Most students put down only traditional occupations such as teacher, carpenter, secretary, and truck driver. Does this mean that these young people have had insufficient guidance and are unaware of the many newer occupations, especially those in the technician area?

2. The aspirations of a good many are towards low-level jobs. Does this mean that these youth are realistic or does it suggest that their socioeconomic and school situations have diminished their ambitions?

Taking this limited sub-study as a whole, the researchers are inclined to suggest that students have limited ambitions and that these arise partially from the fact that the idea of a total program of vocational-technical education is unknown in the area and that insufficient attention has been paid to occupational counseling and information.

TABLE 4.10

11TH GRADERS FIRST CHOICE OF OCCUPATION AND COMPARISON WITH CHOICE BY PARENTS FOR THEIR SONS AND DAUGHTERS

| | Percent | |
|---|---|---|
| Occupational Choice | Students N=862 | Parents N=477 |
| Professional | 23 | 31 |
| Certified Public Accountant | (3) | (0) |
| Business | (4) | (14) |
| Doctor | (1) | (2) |
| Engineer | (5) | (5) |
| Lawyer | (1) | (0) |
| Nurse | (6) | (6) |
| A scientific field | (1) | (1) |
| All other professions | (2) | (3) |
| Services | 20 | 15 |
| Government | (9) | (2) |
| Teachers | (11) | (13) |
| Skilled and Semi-skilled Workers | 37 | 23 |
| Office, secretarial and related | (12) | (5) |
| Cosmetologist | (4) | (1) |
| Creative Arts | (6) | (4) |
| Electrician | (1) | (0) |
| Laboratory Technician | (1) | (1) |
| Draftsman, Tool & Die Maker & Other | (2) | (7) |
| Airline Hostess | (1) | (0) |
| Carpenter | (1) | (0) |
| Mechanic | (3) | (1) |
| Truck Driver | (0) | (0) |
| All Others | (5) | (4) |

TABLE 4.10--Continued

| Occupational Choice | Percent<br>Students<br>N=862 | <br>Parents<br>N=477 |
|---|---|---|
| Labor | 4 | 0 |
| Construction | (2) | (0) |
| Industry | (1) | (0) |
| All Others | (1) | (0) |
| Miscellaneous | 7 | 13 |
| Armed Forces | (0) | (0) |
| Farmer | (2) | (0) |
| Housewife | (2) | (1) |
| Ministry | (1) | (0) |
| Don't Know | (2) | (0) |
| "Anything my child will be happy in" | (0) | (12) |
| No Response | 19 | 18 |

Source: Questionnaire administered by school administrators.

# CHAPTER 5*

# HIGH SCHOOL GRADUATES AND DROPOUTS TWO YEARS AFTER GRADUATION

A sub-study was made of the class of 1963 to determine some of their occupational and educational attainments after leaving high school. About 65 percent, or 549, of the graduates and dropouts responded to a mail questionnaire sent during June 1965, approximately two years after their class had graduated.

The population of the sub-study was all of the known graduates and dropouts for the class of 1963 from the 19 public high schools and three non-public high schools in the study area and consisted of 915 individuals. However, addresses were provided for only 848 persons, including 79 out of 113 dropouts and 769 out of 802 graduates. The population, net population (those with addresses reported), and respondents were as follows:

TABLE 5.1

POPULATION AND PROPORTIONS RESPONDING

| | Top 25% | Second 25% | Third 25% | Bottom 25% | Drop-outs | Total |
|---|---|---|---|---|---|---|
| Reported Population | 196 | 205 | 197 | 204 | 113 | 915 |
| Net Pop. (Addresses Known) | 189 | 196 | 189 | 195 | 79 | 848 |
| Respondents | 161 | 135 | 123 | 104 | 26 | 549 |
| % Pop. Responded | 82 | 66 | 62 | 51 | 23 | 59 |
| % Net Pop. Responded | 85 | 69 | 65 | 53 | 33 | 65 |

Those who responded were mainly graduates rather than dropouts, and the graduates who ranked (scholastically) in the upper quartiles of their classes responded in greater numbers. The readers of this report must keep in mind the fact that the schools have somehow been able to keep in touch with a higher proportion of the graduates than of the dropouts, and with a higher proportion of the students who achieved at a higher scholastic level than

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*This sub-study was conducted by Dr. O. Donald Meaders, Associate Director of the Top-O-Michigan Study.

than of those in the lower scholastic quartiles. In general, this follow-up study tells us much more about the students who achieved at the higher scholastic levels than it does about those lower achievers.

Residence at Time of Leaving School. About one-fourth of the respondents lived on farms, one-third in towns or cities (population over 2,500), and two-fifths were rural non-farm residents (including those in villages with population of 2,500 or less). At the time of graduation or leaving school, about three-fourths of the respondents lived in the three counties of Charlevoix, Emmet and Cheboygan.[1]

Residence at Time of Study (June 1965). Nearly three-fifths of the respondents were living in the same county where they had lived at graduation. The mobility was about 40 percent with 5 percent in an adjacent county, 22 percent in non-adjacent counties but within Michigan, and 12 percent in other states. Emmet County had the highest proportion of the respondents still residing in the same county as shown below:

TABLE 5.2

COUNTY OF RESIDENCE TWO YEARS AFTER GRADUATION

| County of Residence at Time of Graduation | Percent of Respondents With Present Address in: Same County | Adjacent County |
|---|---|---|
| Antrim (N:40) | 60 | 3 |
| Charlevoix (N:138) | 59 | 7 |
| Cheboygan (N:114) | 54 | 6 |
| Emmet (N:144) | 66 | 2 |
| Otsego (N:69) | 52 | 4 |
| Presque Isle (N:32) | 50 | 9 |

The most frequently given reasons for moving were "To go to school," "To take a job," and "Got married." Most of those who moved, reported they moved within six months after graduating from (or leaving) school.

Post High School Education. Reports from the schools indicated nearly one of every two graduates had gone to some post high school program with about four going to four-year colleges or universities for every three going to other kinds of schools. But, the survey of the graduates and dropouts showed about 60 percent of the respondents had taken some post high school education, or six out of every ten, and they were about equally divided in attendance among three kinds of institutions: community colleges, four-year institutions, and trade or technical schools. Eighty-one graduates reported they had attended North Central Michigan College (Petoskey) and 33 reported attendance at other community colleges. Eighteen reported attendance at Central Michigan University (Mount Pleasant) and 122 reported attendance at other four-year institutions. Ninety of the respondents listed trade, business, and technical schools which they had attended, such as nursing schools, beauty academies, business schools, barber colleges, schools for mechanics and technicians.

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[1] See Appendix — for additional data from the follow-up study.

The proportion of graduates who reported attendance in post high school educational programs was highest from Charlevoix County and lowest from Cheboygan County (see Figure 5.1). This same chart also shows that the highest proportion going to community colleges was from Emmet County.

Most of the respondents had taken courses of study designed to transfer to four-year institutions. About two-thirds of those who went to post high school educational programs reported courses of study in the fields of education, business, liberal arts, and engineering, as shown in Figure 5.2. Less than 30 percent reported courses of study classified as two years or less in length.

Employment Since Graduation. Data illustrated in Figure 5.3 show the proportion of respondents in the various occupational groups. Employment in office occupations and in unspecialized jobs in factories or small industries was most common for the respondents who had secured employment. About 7 percent of the graduates were currently unemployed (exclusive of those as students or housewives) and 3 percent failed to indicate their employment status. Larger proportions of the respondents were found in health and office occupations when the present employment was compared with first full-time employment. Smaller proportions of the respondents were found in sales, food service and preparation, personal service, and general labor occupations.

The job titles for some of the most frequently listed jobs in each of the occupational groups are given in Table 5.3. The category "Other" includes students, military service, housewife, unemployed, and unknown (see Figure 5.3). However, the "student" classification is largest in both first employment (20 percent) and present employment (13 percent). Six percent were classified in military service for first full-time employment and this was increased to 9 percent for present employment.

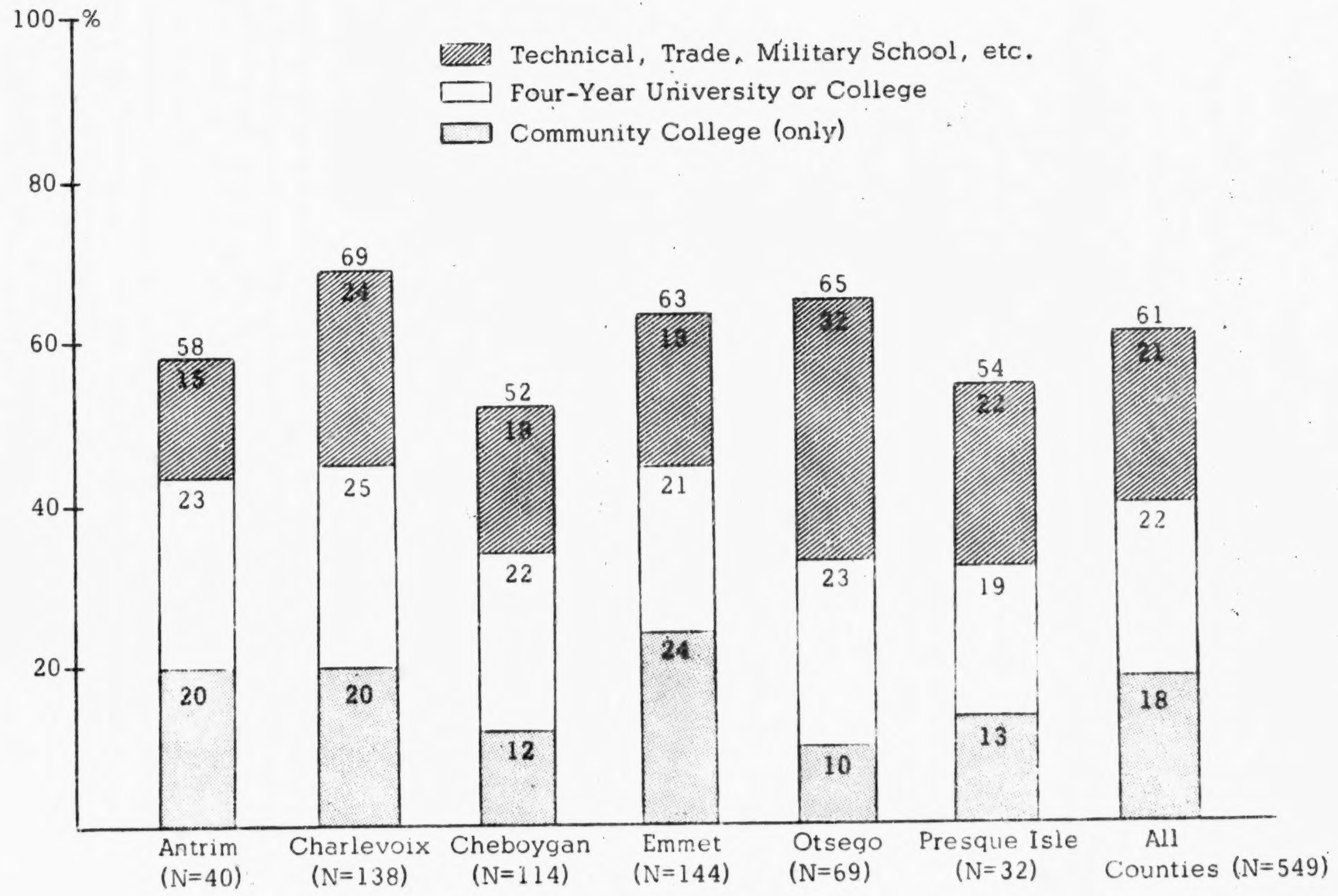

FIGURE 5.1

PROPORTION OF GRADUATES FROM EACH COUNTY
IN POST HIGH SCHOOL EDUCATION PROGRAMS

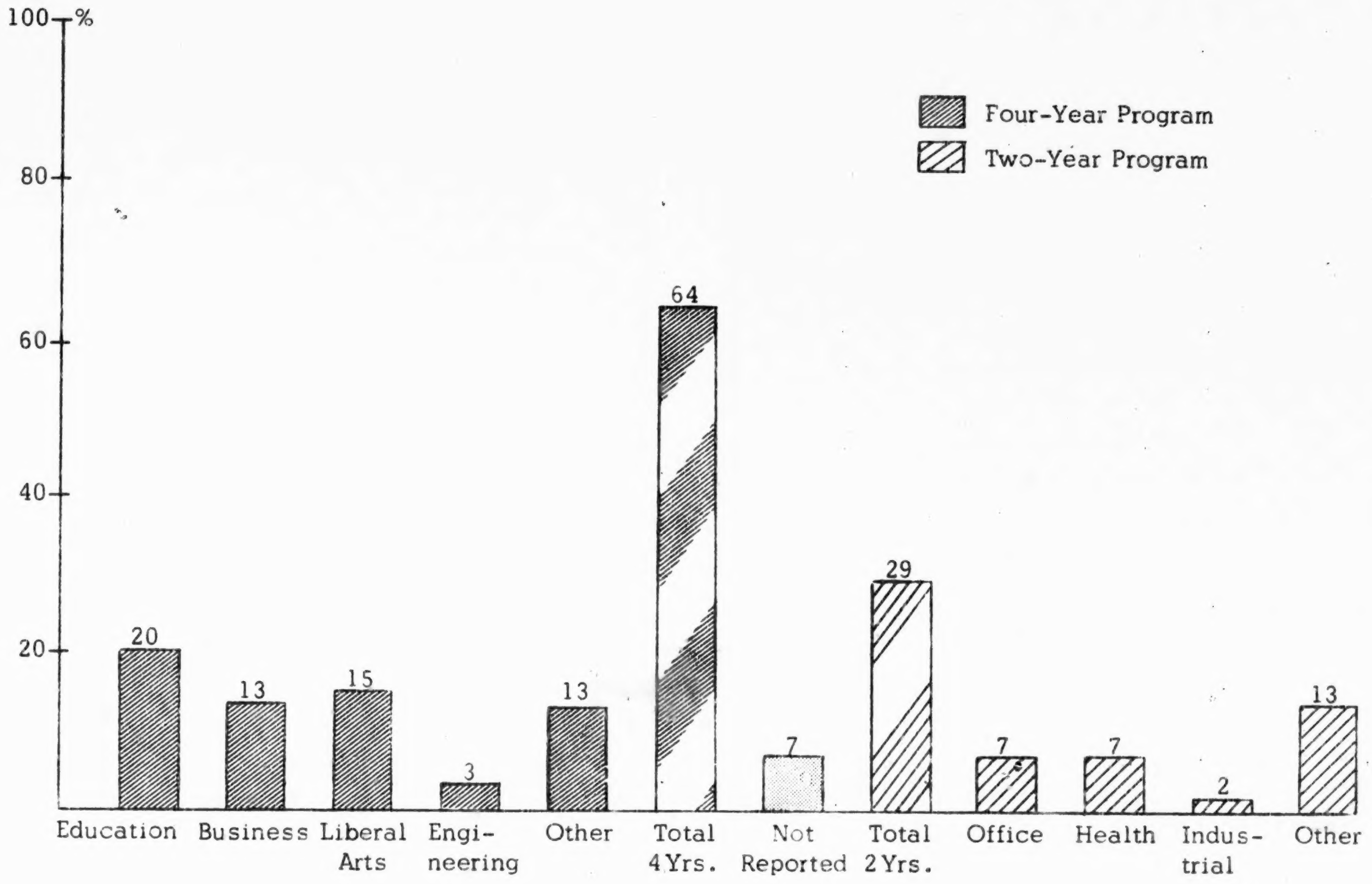

FIGURE 5.2

COURSES OF STUDY TAKEN IN POST HIGH SCHOOL
EDUCATION PROGRAMS
(N=334)

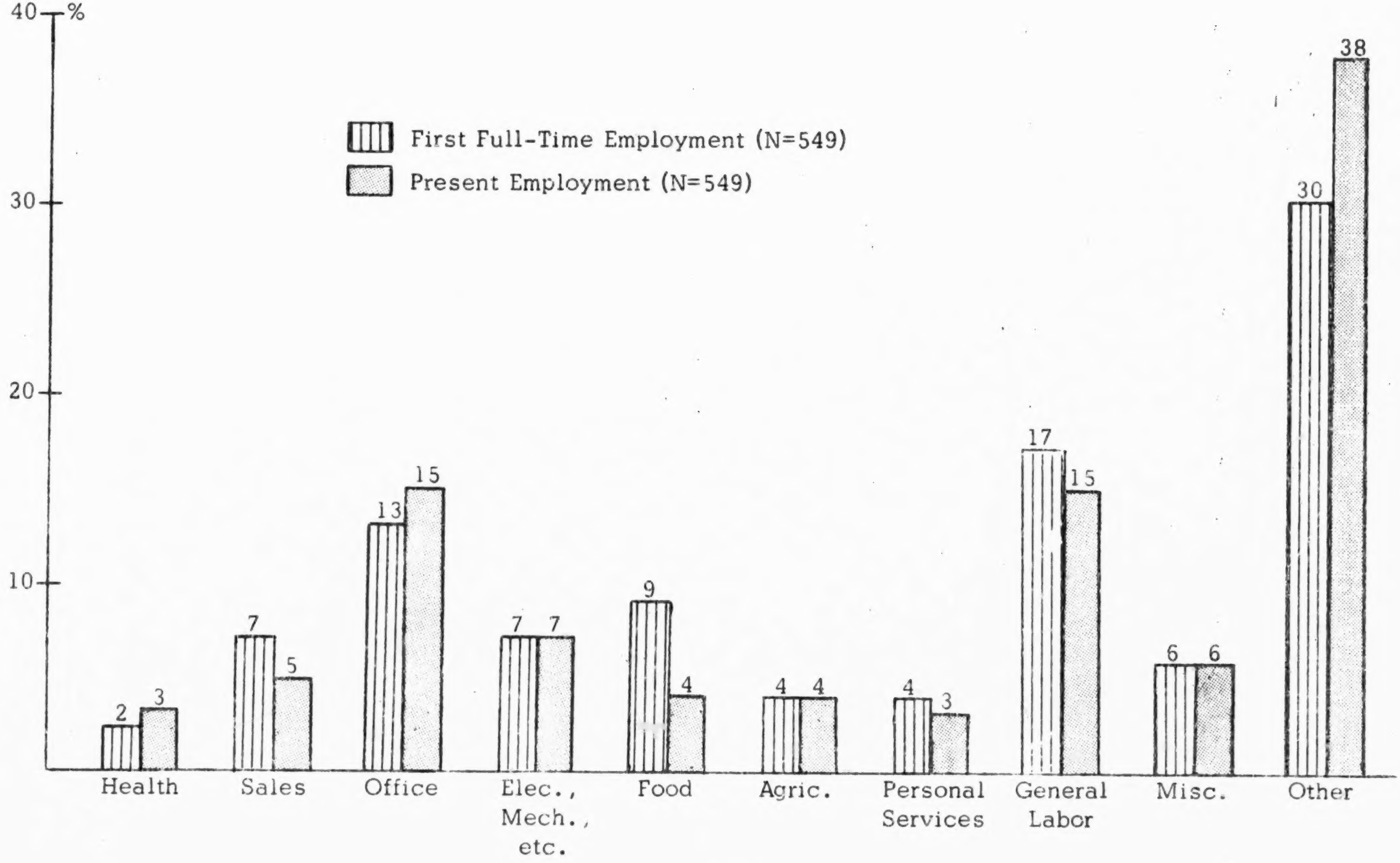

FIGURE 5.3

FIRST FULL-TIME EMPLOYMENT
AND PRESENT EMPLOYMENT: JUNE 1965

TABLE 5.3

JOB TITLES MOST FREQUENTLY FOUND IN VARIOUS OCCUPATIONAL GROUPS

| Occupational Group | Job Titles Included |
|---|---|
| Health Occupations | Practical Nurse, Nurses' Aide, and Kindred. |
| Sales Occupations | Salesclerk, Cashier in Grocery, Routeman, Door-to-Door Sales, and Kindred. |
| Office Occupations | Secretary, Stenographer, Typist, File Clerk, Bookkeeper, Cashier, Keypunch Operator, Flex-O-Writer Operator, Telephone Operator, Stock Clerk, and Kindred. |
| Electrical, Mechanical, Structural and Small Manufacturer | Electrician, Mechanic, Plumber, Bricklayer, Painter, Welder, Roadbuilder, Carpenter, Manufacturer of Small Products, and Kindred. |
| Food Preparation and Service Occupations | Chef, Baker, Short-Order Cook, Butcher, Lunch Counter Attendant, Waiter, Waitress, Busboy, Dishwasher, and Kindred. |
| Farming and Other Agricultural Occupations | Farming, Hired Hand, Gardening, Ornamental Horticulture, Tree Trimmer, Nurseryman, and Kindred. |
| Personal Services | Hairdresser, Beautician, Cosmetologist, Maid in Motel or Hotel, Baby-Sitter, Housekeeper, and Kindred. |
| General Labor | General Labor (unspecialized), Factory, Assembly Line, Janitor, and Kindred. |
| Miscellaneous | Recreation, Transportation, Protective, Gas Station Attendant, and Others. |

## Wages for First and Present Employment

About 18 percent started employment for less than $42.50 per week (before deductions) and about 8 percent were receiving less than $42.50 per week in their present employment. The weekly pay for each occupational group is shown in Table 5.4. The salary range with the greatest frequency shifted upward from first employment to present employment for all the occupational groups except Food, Sales, Personal Service, Health, and Miscellaneous.

A considerably higher proportion of the respondents who moved to non-adjacent counties in Michigan reported they received weekly earnings of $102.50 or more on their present job as shown below:

| | Percent Receiving $102.50 or More Per Week |
|---|---|
| Living in Same County as Time of Graduation (N=89) | 10 |
| Living in Adjacent County Now (N=39) | 8 |
| Living in Non-Adjacent County in Michigan (N=98) | 30 |

About 20 percent of the respondents indicated they took their first full-time job to earn money to go to school, and about 60 percent of those currently enrolled in school reported they were also employed either part-time or full-time.

## Job Satisfaction

The highest proportion of respondents indicating the most job satisfaction were those persons in health, office, and personal service occupations. In general, the respondents indicated a higher level of job satisfaction with their present jobs than for their first full-time employment.

## Interest in Additional Training

About 20 percent of the respondents indicated they would like to have additional training for their present work and 30 percent preferred training for some other work. The remaining 50 percent either indicated no desire for additional training (20 percent) or failed to respond to the question (30 percent).

TABLE 5.4

OCCUPATIONS AND WEEKLY PAY (BEFORE DEDUCTIONS) FOR CLASS OF 1963 IN FIRST FULL-TIME EMPLOYMENT AND PRESENT EMPLOYMENT

| Occupational Group | Percent in Various Weekly Pay Ranges | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Military Service | | Less than $42.50 | | $42.50 to $62.50 | | $62.50 to $82.50 | | $82.50 to $108.50 | | $102.50 or more | | Unknown | |
| | First | Pres. | First | Pres. | First | Pres. | First | Pres. | First | Pres. | First | Pres. | First | Pres. |
| Not in Labor Market: unemployed, student, housewife, military, and unknown | 19 | 20 | 1 | 4 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 1 | 79 | 73 |
| General Labor | 0 | 0 | 14 | 1 | 46 | 26 | 21 | 18 | 7 | 14 | 7 | 30 | 5 | 11 |
| Office Occupations | 0 | 0 | 17 | 11 | 47 | 35 | 26 | 36 | 6 | 7 | 0 | 4 | 4 | 7 |
| Food Occupations | 0 | 0 | 65 | 41 | 25 | 18 | 4 | 18 | 0 | 5 | 2 | 14 | 4 | 4 |
| Electrical, Mechanical, and Similar | 0 | 0 | 2 | 0 | 28 | 11 | 38 | 24 | 18 | 18 | 12 | 42 | 2 | 5 |
| Sales Occupations | 0 | 0 | 38 | 17 | 46 | 37 | 5 | 20 | 3 | 6 | 3 | 7 | 5 | 13 |
| Farming and Other Agricultural Occupations | 0 | 0 | 13 | 9 | 22 | 18 | 43 | 14 | 0 | 27 | 0 | 0 | 22 | 32 |
| Personal Service Occupations | 0 | 0 | 64 | 28 | 9 | 44 | 0 | 0 | 4 | 0 | 0 | 0 | 23 | 28 |
| Health Occupations | 0 | 0 | 18 | 27 | 46 | 47 | 0 | 20 | 0 | 0 | 0 | 0 | 36 | 6 |
| Miscellaneous | 0 | 0 | 9 | 9 | 53 | 25 | 22 | 13 | 6 | 16 | 9 | 18 | 0 | 19 |

### In Retrospect, Kind of Vocational Education Preferred in High School

The vocational program areas preferred by the largest proportions of the graduates (assuming the programs had been available) were as follows:

| Area | Percent |
|---|---|
| Office occupations | 26 |
| Industrial occupations | 12 |
| Health occupations | 9 |
| Retailing — Sales occupations | 9 |

Another way of looking at the "hindsight" of the respondents is to determine what occupations they now hold and their preference for training in high school. Figure 5.4 shows that nearly 60 percent of the respondents now in office occupations indicated they would have preferred to take office occupational programs in high school.

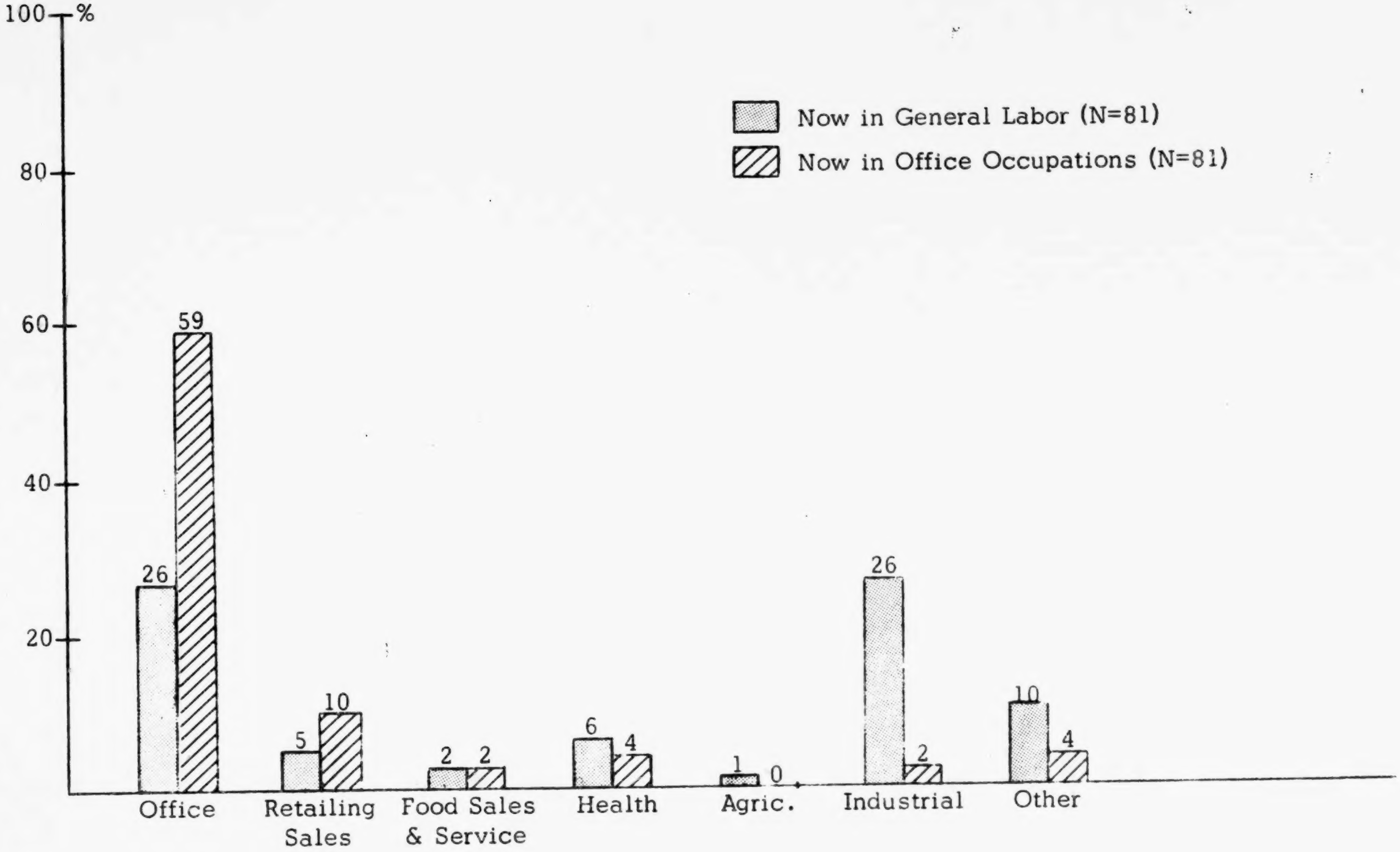

FIGURE 5.4

PROPORTION OF GRADUATES WHO INDICATED PROBABLE CHOICE OF VOCATIONAL COURSES IN HIGH SCHOOL, IF COURSES HAD BEEN AVAILABLE

# SECTION II.

# THE PRESENT PROGRAM OF VOCATIONAL-TECHNICAL EDUCATION WITH RECOMMENDATIONS FOR IMPROVEMENT

This section contains chapters which deal specifically with each specialized field of vocational education. Each chapter describes the present curricula as they were observed by a member of the research team In addition, each chapter describes a "model" program, comparing what is with what ought to be. This section then describes the base upon which an improved and expanded program is to be built.

## CHAPTER 6

# EDUCATION FOR AGRICULTURAL OCCUPATIONS*

It is the purpose of this chapter: (1) to present and analyze the present offerings in education for agricultural occupations in the 21 schools included in the study area; (2) to identify the present situation and trends in agriculture in the six-county area and their relationship to needs for occupational education in agriculture; and (3) to recommend a plan of action for achieving a program of education for agricultural occupations feasible for the area under consideration.

## A. A Program of Education for Agricultural Occupations

Agricultural occupations include those occupations requiring competencies in one or more of the areas of animal science, plant science, soil science, agricultural economics and/or agricultural engineering. These occupations are commonly identified with the production of food — farmers, farm managers, farm supervisors, farm laborers and others associated with the production of crops and livestock. They are less commonly identified with the production of forest products, nursery or greenhouse products and, until recent years, seldom identified with the services provided to farmers through various forms such as feed, seed and fertilizer; market and credit information and assistance; and other on-farm and off-farm technical and professional assistance.

A total program of education for agricultural occupations would involve high school youth and post-high school youth and adults. It would be concerned with the development of competencies necessary for entrance and advancement in farming and other agricultural occupations. It would be concerned with upgrading and retraining of skilled, technical and managerial level workers. It would provide a base for persons who desire to advance to professional level positions in the broad fields of agricultural production, marketing, research, and education.

A total program of education for agricultural occupations should be considered as including that instruction, in addition to technical agriculture, which helps develop competencies for initial employment, advancement, and success as a citizen in a democratic society. Leadership development is essential as a part of the total program.

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*Written principally by Dr. O. Donald Meaders, Assistant Professor of Agricultural Education, M.S.U.

## B. Present Programs in the Public Schools

Seven of the 18 public high schools in the area offer instruction in agriculture. All three of the non-public high schools make it possible for their students to participate in the vocational agriculture programs, on a shared-time basis, in the public schools. During the school year 1964-65 approximately 340 students were enrolled in agricultural courses, with approximately equal numbers in grades 9, 10, and 11. However, enrollment in the 12th grade dipped to about one-half of the number in the 11th grade, as shown in Table 6.1. These ten high schools enrolled about two-thirds of all the students in the 21 high schools included in this study. In other words, about one-third of the students in the study area were enrolled in schools not presently served by vocational agriculture programs. Approximately five man-years of instruction time were assigned in agriculture to serve the students from ten high schools.

Instruction was offered to adult and/or young farmers at only two of the seven schools during the past school year. In general, the instructor-time was allocated to instruction for the high school students, mainly through classroom teaching, but with some time assigned for supervision of agricultural experience programs (primarily SUPERVISED FARMING PROGRAMS).

TABLE 6.1

ENROLLMENTS AND TEACHER-TIME ASSIGNED IN VOCATIONAL AGRICULTURE: 1964-65*

| School | FFA Membership | Enrollments in Vo Ag by Grades | | | | | % Teacher-time for Ag. |
|---|---|---|---|---|---|---|---|
| | | 9th | 10th | 11th | 12th | Total | |
| Cheboygan[a] | 64 | 21 | 21 | 12 | 13 | 67 | 5/6 |
| East Jordan | 42 | 9 | 14 | 15 | 5 | 43 | 1/2 |
| Gaylord[b] | 34 | 11 | 11 | 11 | 5 | 38 | 1/2 |
| Harbor Springs | 25 | 10 | 11 | 7 | 4 | 32 | 2/3 |
| Onaway | 48 | 15 | 13 | 12 | 8 | 48 | 5/6 |
| Pellston | 28[c] | 7 | 12 | 9 | 1 | 29 | 5/7 |
| Petoskey[d] | 64 | 27 | 13 | 27 | 14 | 81 | 5/6 |
| Total | 305 | 100 | 95 | 93 | 50 | 338 | |

[a] Includes enrollment of students from Cheboygan Catholic High School.

[b] Includes enrollment of students from Gaylord St. Mary High School.

[c] The FFA Chapter was reactivated during April 1965 and these data were reported by the teacher of vocational agriculture.

[d] Includes enrollment of students from Petoskey St. Francis High School.

*Source: The Michigan Department of Education, Agricultural Education Division.

The usual pattern for enrollment in vocational agriculture was found to be based on initial enrollment as a freshman and then, if the student continued his interest in farming or some other agricultural occupation, he usually was encouraged to continue his enrollment in vocational agriculture with membership in the Future Farmers of America (FFA). Frequently, students interested in professional careers in agriculture were encouraged to take only two or three years of agriculture if a scheduling conflict existed between the agriculture course and the science or mathematics courses. In the larger schools some students interested in professional careers in forestry and conservation had never enrolled in vo-ag courses. Some of the "vo ag students" take one or two business courses, and most of them take one or more years of industrial arts courses in addition to "farm mechanics," if it is offered.

School land laboratories, mainly school forests, were found to be available at nearly all of the schools, regardless of whether vocational agriculture was taught. In some of the schools, the school forest was nearby so as to be quite accessible for instruction. There appeared to be very little use of the school forests for instruction by teachers other than the vocational agriculture teachers.

The present classroom and laboratory facilities (including farm mechanics) were found to be ample in some schools but quite inadequate in others. No farm mechanics facilities were provided at East Jordan, Cheboygan, Pellston and Onaway. The classroom and farm mechanics laboratory were contained in one large room at Petoskey in a building which is destined to become part of the Junior High facilities when the new high school is completed. At Gaylord the classroom, although small, and the new room for farm mechanics, will probably be ample for the pre-vocational and vocational program at the high school level. Only East Jordan had a greenhouse available for use by the agricultural instructor.

## Former Vo Ag Students

Some descriptive information about the students in the class of 1963 (graduates and dropouts) who enrolled in vocational agriculture for one or more years was taken from the follow-up study reported in Chapter 5. The following are highlights from those data:

1. About 38 percent of the male graduates from those schools where vocational agriculture courses were available took one or more years of vocational agriculture.
2. Nearly 80 percent of the students who enrolled in vocational agriculture were from the bottom half (scholastically) of the

graduating class: top quartile, 4%; second quartile, 17%; third quartile, 43%; and bottom quartile, 36%.

3. Most of the students who took vocational agriculture took the courses for four years: one year, 11%; two years, 20%; three years, 16%; and four years, 53%.
4. Approximately the same proportion of the students who enrolled in vocational agriculture courses have moved to other counties or out of Michigan as those who took no agriculture.
5. About 36 percent of the graduates who took one or more vocational agriculture courses went on to post-high school education programs: four to community college; four to four-year colleges and universities; seven each to armed forces schools and trade schools.
6. The occupations of the fathers were mainly in farming.
7. The present occupations most frequently reported by those who had taken one or more years of vocational agriculture courses:

| | | | |
|---|---|---|---|
| General Labor | 17 | Food Service | 3 |
| Elec., Mech., etc. | 8 | Sales | 2 |
| Ag. Occup. | 8 | All Others | 18 |
| Clerical & Office | 5 | TOTAL | 61 |

8. Present viewpoint of those graduates who took one or more years of vocational agriculture courses regarding the kind of courses they would have preferred to take (if available) when they were in high school:

| | Number |
|---|---|
| Office | 5 |
| Retailing, Sales, etc. | 4 |
| Ag. Occupations | 4 |
| Industrial | 22 |
| Health | 1 |
| Other | 8 |
| No Response | 17 |

## C. Agriculture in the Six-County Area

Agriculture, including forestry and recreation, account for a major portion of the total economy for the area. Much of the land area is in non-farm forests and provides the basic resource to attract many tourists, hunters, and fishermen, in addition to providing raw materials to support a large and expanding wood products industry.

The farm population and number of farms has declined drastically in recent years. The number of farms dropped 27 percent during the five-year period 1954-1959 while the drop for the same period was only 19 percent for the entire state. Many of the farmers have off-farm employment and this "other income" is greater than the agricultural income for more than 50 percent of the farmers, except in Presque Isle County, as shown in Table 6.2.

Relatively few of the farms are in the upper economic classes. About one-fourth are in Class IV and nearly 60 percent are in Classes V and VI, as shown in Table 6.3. The fact that a smaller proportion of the farms in the area are in the Classes I, II, and III than for the entire state, implies a relatively less competitive farming situation.

The value of all farm products sold (exclusive of forest, greenhouse and nursery products) was estimated at more than $10.5 million for the six counties in the year 1960. The value of forest, nursery and greenhouse products sold from farms in 1960 was an additional $400,000, making the total value of all farm products sold about $11 million. Antrim and Presque Isle counties had the largest total value of farm products sold, and Otsego the smallest, as shown in Table 6.4.

Livestock and livestock products constituted about two-thirds of the total value of farm products sold in 1959, with dairy products constituting about one-half of that amount. The number of farms with dairy cows declined rapidly between 1954 and 1959 with the decline continuing, according to local sources.

During the five-year period 1954-1959 the value of all farm products sold increased in all of the six counties except Otsego and Emmet, with an overall increase of 7 percent, or about $671,000.

Horticultural products such as ornamental shrubs, flowers, and vegetables decreased in importance during 1954-1959 in Antrim, Cheboygan, Emmet and Presque Isle counties, and for the six-county area, even though the value increased in Charlevoix and Otsego counties. However, there appears to be a current increase in the size of business for nurseries, greenhouses, and floral shops, especially in the production and sale of ornamental plants for landscaping.

## Agricultural Businesses and Services

Interviews were conducted with owners, managers and directors of many of the agricultural businesses and services in the six-county area to determine the number of employees, job titles, percent of business agriculturally

## TABLE 6.2

## SELECTED FARM STATISTICS: 1959*

| County | Total Land Use | | Farms | | | | Off-Farm Employment and Income | |
|---|---|---|---|---|---|---|---|---|
| | % in Non-Farm Forests | % in Farms | Number | % Change 1954-1959 | Gross Sales $2,500 or more | | % Part-time Farmers** | % Other Income that Exceeds Agric. Income |
| | | | | | Number | Percent | | |
| Antrim | 51 | 40 | 676 | -19 | 312 | 46 | 43 | 53 |
| Charlevoix | 57 | 33 | 537 | -29 | 222 | 41 | 48 | 66 |
| Cheboygan | 74 | 18 | 470 | -33 | 155 | 33 | 45 | 62 |
| Emmet | 62 | 31 | 535 | -36 | 168 | 31 | 49 | 62 |
| Otsego | 73 | 20 | 288 | -18 | 87 | 30 | 41 | 60 |
| Presque Isle | 61 | 33 | 648 | -21 | 344 | 53 | 34 | 38 |
| Sub-Total | -- | -- | 3,154 | -27 | 1,288 | 41 | -- | -- |
| MICHIGAN | 46 | 40 | 111,817 | -19 | 59,000 | 53 | 42 | 46 |

*Source: Michigan Agriculture: County Data and State Trends, Miscellaneous Series Circular E-22 (East Lansing: Michigan State University, April 1962).

**Operators working off their farms 100 days or more per year.

## TABLE 6.3

## PERCENT OF COMMERCIAL FARMS BY ECONOMIC CLASS: 1959*

| County | Commercial Farms (N) | Percent by Economic Class** | | | | | |
|---|---|---|---|---|---|---|---|
| | | I | II | III | IV | V | VI |
| Antrim | 347 | 0.6 | 6.1 | 14.4 | 25.1 | 43.8 | 10.1 |
| Charlevoix | 252 | --- | 3.9 | 10.3 | 24.2 | 49.6 | 11.9 |
| Cheboygan | 200 | 1 | --- | 4 | 37.5 | 35 | 22.5 |
| Emmet | 218 | --- | --- | 16.5 | 19.2 | 41.3 | 27.5 |
| Otsego | 102 | --- | --- | 9.8 | 21.5 | 53.9 | 14.7 |
| Presque Isle | 419 | --- | 4.0 | 8.3 | 28.8 | 40.8 | 17.9 |
| Sub-Total | 1,538 | 0.3 | 3.8 | 10.6 | 26.5 | 43.2 | 16.2 |
| MICHIGAN | 65,042 | 1.6 | 5.9 | 19.6 | 29.8 | 33.3 | 9.8 |

*Source: U. S. Census of Agriculture: 1959, Michigan Counties, Vol. I, Part 13, Table 5.

**Commercial farmers defined as, "In general, for 1959, all farms with a value of sales amounting to $2,500 or more were classified as commercial." The commercial farms were divided into six economic classes based on the total value of all farm products sold.

| | | | |
|---|---|---|---|
| Class I | $40,000 and over. | Class IV | $5,000 to 9,999. |
| Class II | 20,000 to 49,999. | Class V | 2,500 to 4,999. |
| Class III | 10,000 to 19,999. | Class VI | 50 to 2,499. |

## TABLE 6.4

## VALUE OF FARM PRODUCTS SOLD BY SOURCE: 1959*

| County | All Farm Products Sold | All Crops Sold |  |  |  | All Livestock and Livestock Products |
|---|---|---|---|---|---|---|
|  |  | Vegetables | Fruits & Nuts | Other | Total |  |
| Antrim | $ 2,660,000 | $ 115,000 | $ 595,000 | $ 359,000 | $ 1,070,000 | $ 1,590,000 |
| Charlevoix | 1,813,000 | 36,000 | 185,000 | 147,000 | 368,000 | 1,444,000 |
| Cheboygan | 1,456,000 | 5,000 | 214,000 | 117,000 | 336,000 | 1,120,000 |
| Emmet | 1,312,000 | 33,000 | 405,000 | 387,000 | 451,000 | 861,000 |
| Otsego | 643,000 | 2,000 | 5,000 | 208,000 | 215,000 | 427,000 |
| Presque Isle | 2,646,000 | 700 | 30,000 | 944,000 | 974,000 | 1,671,000 |
| Sub-Total | 10,530,000 | 193,000 | 1,434,000 | 2,162,000 | 3,414,000 | 7,113,000 |
| MICHIGAN | $622,960,000 | $19,943,000 | $56,569,000 | $212,255,000 | $288,767,000 | $334,193,000 |

*Source: U. S. Census of Agriculture, 1959, for Michigan Counties, Table 5.

oriented, and trends for employment.[1] Most of the interviews were conducted by teachers of vocational agriculture and Cooperative Extension Directors in the six counties. The major findings were:

1. Nearly 100 businesses and services were included in the interviews. About 25 other known agricultural businesses were not included because of insufficient time to conduct the interviews.
2. More than 2,500 persons are employed by the agricultural businesses and services interviewed, and they provide annual entry opportunities for more than 400 persons, including part-time, seasonal and/or full-time employees.
3. Only part of the employees need competencies in animal science, plant science, soil science, agricultural economics and/or agricultural engineering, for initial employment. However, many employers reported the need for a higher level of occupational competence by new employees in all skilled and technical level positions.
4. Annual entry opportunities for agricultural occupations are difficult to determine because (1) most of the employers employ only a small number of employees, (2) many of the businesses are family owned and operated, and (3) many of the potential jobs require entrepreneurship on the part of the individual.
5. There is a very limited amount of information now available to high school counselors, teachers, and parents regarding the nature and extent of employment in jobs in northern Michigan requiring competencies in agriculture (including forestry and conservation).
6. Some agricultural job titles for which annual entry opportunities within the six-county area exceed five and/or acute shortages of qualified personnel were reported to include:

   Agricultural Machinery Mechanics
     and Mechanic Helpers
   Tree Shapers
   Loggers
   Park Rangers
   Greenhouse Workers and Laborers

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[1] For a complete report of the procedures used and findings, see "A Survey of Occupations in Agricultural Businesses and Services of Six Northern Michigan Counties" (Michigan State University, September 1965), 31 pp. (Mimeographed.)

## Trends in Agriculture

Several trends during the past decade have major implications for the education and services needed in agriculture. Rapidly growing population, technological developments, higher levels of income, and improved transportation and communication systems are but a few of the changes which have been part of the complex social and economic factors affecting agriculture. Increased demands for food, shortages of labor, the price-cost squeeze, and many other factors have been responsible for increased farm size, farm mechanization, and the adoption of improved farm technology.

United States farm production per man-hour increased 110 percent in the 12 year period from 1950 to 1962, while total farm production increased by about 26 percent. Purchased farm production inputs increased by 18 percent and the farm production assets per farm rose from $17,000 in 1950 to $48,000 in 1962. These and other data are highly indicative of the shift in the source of farm inputs from farm labor to various forms of technology such as mechanizations and agricultural chemicals.[1]

The number of employed farm workers in the United States dropped from 7 million in 1950 to 4 million in 1962, or expressed as a proportion of the employed persons, the farm workers represented 13 percent in 1950 but only 6 percent in 1964.[2]

## Need for Workers in Agricultural Occupations

Annual replacements for farmers on farms with over $20,000 gross income in MICHIGAN have been estimated at 100 per year and 300 per year for farms with gross incomes of $10,000 and $20,000. In the six-county area included in this study farm consolidation and farmer retirements will result in an estimated need for but four persons to enter farming per year on farms with annual gross incomes of $10,000 or more. However, when one considers the needs of persons who may desire to make a career from farming and OFF-FARM EMPLOYMENT, usually called PART-TIME FARMERS, the total number of annual entrants have been estimated to be sixteen.

The mechanization in agricultural production has resulted in need for farm machinery mechanics and machine operators as well as additional training for persons engaged in selling and servicing farm machinery. Farm operators have need for instruction in selection, operation, repair and overall management of farm machinery. The statewide need for farm machinery mechanics has been estimated at 450 per year.

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[1] Handbook of Agricultural Charts, Agricultural Handbook No. 258, U.S. Department of Agriculture, September 1963.

[2] 1965 Manpower Report of the President, U. S. Department of Labor.

Positions as salesmen, salesclerks, and other sales people for agricultural businesses in the Top-O-Michigan area and elsewhere in the state offer opportunities for many youth to enter the labor force. Skilled and technical-level workers are in demand in the rapidly expanding horticultural fields of landscaping and floriculture with their related production positions in nurseries and greenhouses. Many management and technician positions are available in the rapidly expanding field of services commonly identified as recreation and conservation. Management of natural resources and the development, management and operation of private and public recreational areas are but two of the occupational fields for which many persons need some (and in some cases, much) competency in the agricultural content areas.

# CHAPTER 7

# EDUCATION FOR DISTRIBUTION*

It is the purpose of this chapter: (1) to present and describe the present offerings in education for the field of distribution in the Counties of Antrim, Charlevoix, Cheboygan, Emmet, Otsego, and Presque Isle; (2) to focus upon the needs of this six-county area regarding education for distribution; and (3) to formulate a plan of action for implementing a program of distributive education which would be feasible for the area under consideration.

## A. The Total Program of Distributive Education

When the terms distributive education or education for distribution are used in this chapter, they denote those courses, groups of courses, or programs of study on the high school or post high school levels that provide the necessary information, skills, and attitudes to adequately prepare the learner for employment in the fields of wholesaling, retailing, and the service industries. A total program of education for distribution will prepare the learner for not only the job entry level but also for career advancement as well.

Distribution plays a most vital role in the economy of this country; over half of the consumer dollar is used to cover the cost of transferring goods from the producer to the ultimate consumer. Michigan is rapidly becoming a center of distribution for the Midwestern portion of the country. With over one-fifth of the national civilian labor force employed in distributive-related occupations, distributive education can no longer be left to evolve on its own. It must become a planned part of the educational framework of every state and local community.

If provision is to be made for effective distributive practices, then society must provide the trained practitioners and specialists at all points in the channel of distribution. Training must be provided for those youths and adults who will assume responsibilities in the fields of retailing, advertising, wholesaling, transporting, storing, and in the allied service industries such as insurance, real estate, banking, feeding and lodging establishments, together with varied other industries that make up the total field of distribution. Within these areas are found the distributive occupations which may be defined as:

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*Written principally by Edward T. Ferguson, Jr., Teacher Educator for Distributive Education, M.S.U.

> . . . those followed by proprietors, managers, or employees engaged primarily in marketing or merchandising goods or services. Such occupations may be found in various business establishments, including, without being limited to, retailing, wholesaling, manufacturing, storing, transporting, financing, trade, industrial, or office occupations.[1]

If an educational program in distribution is to be an effective economic and community endeavor, it must provide for the educational needs of both the young and the adult populations of the area to be served; it must serve those who seek employment in the field as well as those who are already employed. It must provide training for those who have been displaced by automation as well as for high-school-age boys and girls who plan to enter the labor market upon graduation.

A total program of education for distribution would then serve as refresher training for those already in the distributive field as well as for those who desire positions of leadership and management. A complete program must, then, include education on all levels — secondary, post high school (community college or vocational-technical school), and adult.

## B. Procedures Used in the Study

As described in Chapter 1, several methods were used to compile information that would be pertinent in determining the educational needs pertaining to distributive education in the six-county area. Information was gained through the use of questionnaires, analyses of existing data and reports, personal interviews, group discussions, and observations.

Interviews were conducted by the writer with businessmen-owners, managers, and personnel directors. These personal interviews, along with interviews with representatives of the several chambers of commerce within the study area, were most helpful and revealing in gaining insight into the employment needs and training demands of the six-county study area.

The writer also interviewed high school superintendents, principals, vocational directors, guidance counselors, and vocational education teachers, including administrators and faculty of North Central Michigan College, to determine what was now being done to provide for the vocational/technical training needs in distribution of the six-county area. Combined with these interviews, information was also secured from local boards of education, the Michigan Employment Security Commission, and through an opinionnaire sent to all teachers of business and distributive education in the six-county area.

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[1] Administration of Vocational Education, Vocational Education Bulletin No. 1 (Washington: U. S. Office of Education, 1958), p. 13.

## C. Distributive Conditions in the Study Area

### TABLE 7.1

### EMPLOYMENT IN DISTRIBUTIVE FIRMS, 1960

| | Antrim | Charlevoix | Cheboygan | Emmet | Otsego | Presque Isle |
|---|---|---|---|---|---|---|
| Trade (Retail/ Wholesale) | 457<br>(14.3)* | 772<br>(17.9) | 960<br>(24.1) | 1,447<br>(30.0) | 479<br>(19.8) | 675<br>(16.3) |
| Finance, Insurance, and Real Estate | 72<br>(2.3)* | 109<br>(2.5) | 150<br>(3.8) | 124<br>(2.4) | 59<br>(2.4) | 66<br>(1.6) |
| Business, Repair, and Personal Services | 305<br>(9.5)* | 630<br>(14.6) | 509<br>(12.8) | 590<br>(11.4) | 323<br>(13.3) | 214<br>(5.2) |

*Denotes percentage item is of county total.

Source: U. S. Census of Population, 1960.

### TABLE 7.2

### BY COUNTY, NUMBERS OF WORKERS IN RETAIL TRADES

| Occupational Area | Antrim | Charlevoix | Cheboygan | Emmet | Otsego | Presque Isle | Six-County Total |
|---|---|---|---|---|---|---|---|
| Sales Workers | | | | | | | |
| Male | 90 | 198 | 146 | 240 | 75 | 108 | 857 |
| Female | 74 | 101 | 99 | 171 | 44 | 120 | 609 |
| Service Workers (except private households) | | | | | | | |
| Male | 85 | 195 | 156 | 188 | 125 | 205 | 954 |
| Female | 147 | 257 | 283 | 447 | 231 | 189 | 1,554 |
| Managers, Officials and Proprietors, except farm | | | | | | | |
| Male | 288 | 343 | 499 | 509 | 286 | 389 | 2,314 |
| Female | 37 | 60 | 53 | 123 | 39 | 37 | 349 |

Source: U. S. Census of Population, 1960.

The retail, wholesale, and service industries, according to most businessmen and the several chambers of commerce in the six-county area, are in sound economic condition. There are several leading centers of distributive activity found in the study area, and Charlevoix, Petoskey, Cheboygan, and Gaylord account for the largest portion of sales volume.

A large majority of the distributive businesses in several of the centers of retail activity have undertaken effective store remodeling and have standardized to give an Alpine effect to the entire shopping area. This has brought about the rejuvenation of several downtown shopping districts. Many new business establishments have been opened in the past two years. These conditions, together with an upward trend in the economy of the study area, are factors contributing to the increasingly large number of retail, wholesale, and service personnel needs on the job-entry as well as the career and specialist levels of employment. It is apparent to the writer that a minimum of 300 well-trained distributive employees could readily be absorbed into the fast-growing economy of the six-county study area. Many of the presently employed distributive workers are, according to their employers, in need of upgrading and additional training.

The tourist industry, one of the major single industries in the study area, can no longer be considered seasonal in its employment needs. There is great concern among members of this industry as to sources of adequately trained personnel. One resort alone reports hiring more than 200 people during the height of its summer and winter seasons. The several ski resorts in the study area have contributed immensely to the economic growth of the six counties, and projected figures reveal an even greater boom to the future economy.

TABLE 7.3

MICHIGAN RETAIL SALES BY TYPE OF STORE, 1964
($1,000)

| County | Food | Eat & Drink | General Merchandise | Apparel | Furn. & Appliances | Auto | Gas Station |
|---|---|---|---|---|---|---|---|
| Antrim | $3,363 | $ 925 | $ 592 | $ 102 | $ 167 | $ 788 | $1,213 |
| Charlevoix | 5,231 | 1,455 | 986 | 574 | 564 | 2,855 | 1,834 |
| Cheboygan | 5,840 | 3,004 | 1,600 | 392 | 487 | 3,086 | 3,489 |
| Emmet | 5,960 | 2,425 | 3,896 | 2,459 | 1,000 | 4,922 | 2,388 |
| Otsego | 3,080 | 1,391 | 866 | 311 | 558 | 1,774 | 2,157 |
| Presque Isle | 3,441 | 997 | 323 | 894 | 270 | 3,342 | 1,102 |

Source: "Survey of Buying Power," *Sales Management Magazine*.

It is safe to generalize that the economic future of the six-county area, at least in the field of distribution, is sound and on the upswing. Businessmen are at this time feeling the pinch regarding finding adequately trained personnel in all areas of distribution, with the most pressing shortage being felt in the retail and service industries. The field of distribution represents a major segment of the economy of this six-county area. It thus becomes apparent that the area must begin to provide itself with a well-planned program of education for distribution.

## D. The Present Program of Education for Distribution

The writer has found no evidence of any organized program of education for distribution on the high school or post high school levels in the six-county area. The community college at Petoskey does, though, offer a course in business organization that has some relation to distribution but is not primarily a distributive education course.

Although no program of education for distribution is in existence within the study area, results of a survey of the 1963 graduates indicate that 20 percent of the respondents held their first jobs in the field of distribution and that 12 percent were still working in the field of distribution two years after graduation. The survey further revealed that of the students still engaged in the distributive field, 21 percent were earning in excess of $102.50 per week. The same study asked the respondents to indicate what kinds of vocational/technical courses they would have taken had any been available at their high schools. A total of 12 percent (or one out of eight) of the respondents stated that they would have elected courses in distributive education.

At the time of this survey, work experience programs were being offered at Petoskey and Cheboygan high schools. However, no related class work is offered to students engaged in distributive occupations. Two other schools, Pellston and Charlevoix, have plans to initiate similar programs in the coming school year. It should be pointed out that this type of work experience program does not meet vocational/technical standards and provides little or no instruction that is related to on-the-job experiences. It is the opinion of this writer that such programs of "work experience" become a hindrance to the establishment of true cooperative occupational experience programs. While such programs do have a place in the comprehensive high schools, their position should be supplemental to cooperative occupational experience programs and should be primarily for those students who desire extra spending money and who have no intention of preparing for a future career in the particular occupational field. No vocational occupational experience program can be effective without adequate classroom experience that will supplement on-the-job training. Perhaps the most damaging effect that results from trying to provide such general work experience programs in lieu of a true cooperative program is that of exposing the student to inadequately prepared teachers who have had little or no actual recency of experience in the fields about which they are to provide vocational/technical information. It is truly a rare situation in which a school system can find a teacher competent in two of the vocational/technical fields and a near impossibility to find a teacher competent in all vocational/technical fields. It is not, therefore, sound practice to proceed toward the so-called "diversified programs" of vocational education as the method of providing a vocational/technical education in the comprehensive high school. This type of program can at best provide only an organized work program for the secondary schools of the study area.

Adult education in the field of distribution is also virtually non-existent in the six-county study area, although many businessmen expressed the desire to have such an educational opportunity available to them and to their employees. Courses in management and managerial-related subject matter are needed in the study area, particularly because of the large number of owner-operated retail and service businesses. Also needed are courses for supervisory and sales-oriented courses for employees. An organized program of education for distribution must provide for the needs of a very large segment of the adult population of the six-county area. The responsibility for such courses cannot be delegated to industry; it must be provided by the organized educational institutions of the area.

## E. What a Program of Education for Distribution Could Become

The following programs of education for distribution have been carefully prepared to serve as models for several communities similar to the six-county study area. It is the purpose of the writer to present a guide as to what a total program of education for distribution should entail so that the particular study area in question can adapt its local wants and needs to the model, thus producing a workable program for the study area.

### The High School Program

The Preparatory Program — The preparatory program gives students an opportunity to learn about careers in marketing and distribution prior to going on the job. Its chief purposes are to assist the students in appraising their individual aptitudes, interests, and abilities in terms of employment in distribution and to develop in the students an appreciation for the importance of the field of distribution and how it functions to serve our American system of free enterprise.

Such a program at the high school level should be one year in length, one period a day, five days a week, carrying one unit of credit. The class is best taught by the project method, with work experience desirable but not mandatory. The student would not participate in a released school time occupational experience program. This course of study should be limited to no more than 25 students.

Units of study for the preparatory course might include: self-analysis as a step toward the world of work, development of personal characteristics for employability, the customer's viewpoint in selling, the importance of distribution in our economy, the kinds of distributive businesses, the kinds of employment in distribution, education for distribution, how distributive businesses serve the customer through advertising and visual merchandising, how products are packaged and tested to serve the customer, how credit serves the customer and the distributor, how mathematics is used in distribution, and securing employment in distribution.

The Cooperative Program — The cooperative program is a program which is a cooperative enterprise using both the facilities of the school and the marketing and merchandising resources of the community, primarily in the retail, wholesale, and service fields. The student attends his school in the morning, participating in three or four regularly scheduled classes. One of these would be a class of instruction in distributive education. In the afternoon the student would receive part-time employment in the business community. Instruction in the classroom situation would be correlated to the students' on-the-job experience by means of regularly scheduled visitations to the work stations by the distributive education coordinator.

One organization for such a program at the high school level would be a course of study at least one year in length offered at the twelfth grade level. The course would be offered five days a week, for one period a day with one unit of credit. The on-the-job experience would range from 20 to 25 hours a week, also carrying one unit of credit.

Units of study might include: employment orientation, self-service selling, product information for selling efficiently, development of goals for self-improvement, blueprint for retail selling, sales supporting activities and customer services, individual product information workshop (non-durable goods), using advertising as a selling aid, good housekeeping in distribution, distribution in a free economy, the functions of marketing, display principles and technique, types of credit, merchandising mathematics, human relations, and sales demonstrations.

Another approach could be the offering of a two-year sequence in distributive education whereby the student at the eleventh grade level would be given the opportunity to participate in the occupational experience phase of the program of education for distribution. This two-year course of study would also be offered one period a day, five days a week for the two-year span of time. Only students who had completed Distributive Education I would be allowed to take Distributive Education II. The second year would always be cooperative, with the student working from 20 to 25 hours a week.

Another approach concerning time apportionment could be a double period held three days a week for one year. This would prove feasible if shared-time programs in distributive education are undertaken by joining students together from several schools.

Units of study for a two-year course might include: job evaluation related to individual development, advanced selling techniques in specialized areas, marketing research projects, standards and grades and labels, merchandise planning and stock control, advertising layout and copywriting, individual product information workshop (durable goods), visual merchandising (window and interior display), sales presentations to groups, and education for supervision.

Ordinarily no prerequisites are needed for the cooperative program, but a foundation course such as basic business or business mathematics would be beneficial to the student.

## The Post-High School Program

The Two-Year College Program — This program, sometimes called the junior college marketing and management program, is designed for those students who desire an education that will enable them to participate effectively in a variety of business activities in marketing and management. Although this program can terminate in an associate's degree, it is primarily designed for transfer to a four-year school of business.

The student enrolled in the junior college marketing and management curriculum would have a strong offering of courses in general education. These would consist of English, physical and social sciences, and the humanities. Along with these courses would be the foundation courses in the business administration curriculum, such as introduction to business, principles of economics, principles of retailing, management processes and principles of accounting.

The Technical School Program or the One-Year Vocational Program — This program is designed for those students who desire a concentrated program of study in the field of distribution at the post-high school level, combined with on-the-job work experience. Often this program is designed for students who desire to achieve employment skills as rapidly as possible.

It could take the form of a program designed to benefit those students who did not have the opportunity on the high school level to receive training in the field of distribution. The work done on such a program would by necessity be of less than college grade with no possibility of transfer either to the two-year management or marketing curriculum or to any other institution of higher learning.

Such a program would have a high concentration of the technical content-type of courses such as sales, marketing, applied accounting, retailing, advertising, and applied economics. These content courses would be complemented by an internship or occupational experience program.

The Two-Year Sub-Professional Program — This mid-management training program is an area of vocational study carried on at the junior college level which prepares those seeking careers in merchandising, marketing, and management. It provides occupational training at the middle-management level (buyers, department managers, managers of small businesses, assistant managers, etc.) in marketing and merchandising and training for technical and specialized sales positions (wholesaling, insurance, real estate, etc.). The classroom instruction is combined with planned on-the-job training in which the student gains the kind of experience necessary to achieve a career goal.

If the student chooses to terminate his education at the end of two years, he would choose, together with many of the professional courses given in the two-year degree program, several technical courses that would prepare him in some depth for a position upon graduation. The courses might be drawn from salesmanship, advertising, and personnel and management practices. Although the program is basically terminal in nature, many of the courses the student takes can be transferred to a junior college or four-year institution.

## The Adult Program

The adult program in distributive education is a service being rendered to employees, supervisors, managers, and proprietors. Courses of study are organized in cooperation with consultative and advisory groups from several occupational areas. Instruction is usually undertaken by part-time instructors who come from business, education, government, and the professions. A continuous regular program of study may be established, leading toward a diploma in adult distributive education.

Courses on the managerial level might include merchandising, retail organization and operation, speech, and managerial techniques. On the mid-management level, courses in techniques in buying, human relations, personnel management and principles of merchandise control could be offered. On the sales level the offerings could include stockkeeping, merchandise information, display and techniques of selling.

The courses on all levels could range from 10 to 20 hours in length. Frequently, courses on the sales level are offered not only at night but also during slack times of the work day and could be conducted in stores with adequate training facilities. Management and mid-management courses are usually offered at night in extended blocks of time; most common are two and a half to three hours for five sessions.

## Instructional Staff, Facilities, and Equipment for the Total Program

At the vocational/technical level, a well-trained instructor with a major in business administration and/or marketing with a well-founded understanding of the cooperative method can usually teach the basic courses and undertake the coordination activities that would be required for the post-high school program in distribution. The specialized sections of the curriculum might well necessitate the teaching be done by someone from industry or a person from the related subject area field. The instructor for the post-high school program should possess, at minimum, a master's degree relating to the area he is teaching and should have completed the requirements for vocational certification as stated in the Michigan State Plan for Vocational Certification.

The high school teacher-coordinator of distributive education should have an undergraduate major in the field of marketing or distributive education, together with all the required professional courses that are called for under a Michigan Provisional Teaching Certificate. The high school teacher-coordinator must also have or be in the process of obtaining vocational certification under the Michigan State Plan for Vocational Education. This plan calls for at least two years of practical work experience, with at least one of these years being in an area directly related to what the teacher-coordinator will be teaching.

The preparatory program teacher should also possess the same qualifications as the teacher-coordinator.

Facilities for the high school and post-high school programs in distribution are similar. A laboratory containing furniture and fixtures representative of the retail, wholesale, and service industries must be an integral part of the learning program. Such a laboratory would contain cabinets, showcases, open racks, bins, wrapping counters, display windows, and a cash register, together with other equipment the instructor sees necessary for carrying on training unique to the area served.

Versatility of equipment must be kept in mind; equipment that is portable will enable the instructors to reproduce facsimiles of several different retail, wholesale, and service situations. Versatility of equipment will also relieve the necessity of equiping more than one room in the learning center, but will insure that all areas of distribution can receive appropriate learning situations. The cost of such a laboratory for the high school or post-high levels, including all necessary store furniture, tables, chairs, and window display fixtures, would be approximately $3,500. This laboratory could also be used for a seminar room for adult classes.

# CHAPTER 8

# HOME ECONOMICS EDUCATION*

The purpose of this chapter is (1) to define the purpose and scope of home economics, (2) to describe the home economics program as it exists in the six-county area of this study, and (3) to present recommendations for home economics in the area encompassed in this study.

## A. The Purpose and Scope of Home Economics

Preparation for homemaking and preparation for wage-earning occupations related to home economics are two emphases in home economics education. Preparation for homemaking has been the focus of home economics education since the turn of the century. On the other hand, the emphasis on home economics-related wage-earning occupations is a developing focus for home economics education. Each emphasis will be discussed below with consideration given to the functions of the two related, but different programs.

### Home Economics for the Vocation of Homemaking

The aim of home economics education was given direction by a Committee on Philosophy and Objectives of the American Home Economics Association:

> We believe that the clearest new direction for home economics is to help people identify and develop certain fundamental competencies that will be effective in personal and family living regardless of the particular circumstances of the individual or family.
>
> Fundamental to effective living are the competencies to:
>
>> establish values which give meaning to personal, family, and community living; select goals appropriate to these values
>>
>> create a home and community environment conducive to healthy growth and development of all members of the family at all stages of the family cycle.

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*Written principally by Dr. Twyla Shear, Assistant Professor of Home Economics Education, Michigan State University.

> achieve good interpersonal relationships within the home and within the community
>
> make and carry out intelligent decisions regarding the use of personal, family, and community resources
>
> establish long-range goals for financial security and work toward their achievement
>
> plan consumption of goods and services — including food, clothing, and housing — in ways that will promote values and goals established by the family
>
> purchase consumer goods and services appropriate to an overall consumption plan and wise use of economic resources
>
> perform the tasks of maintaining a home in such a way that they will contribute effectively to furthering individual and family goals
>
> enrich personal and family life through the arts and humanities and through refreshing and creative use of leisure
>
> take an intelligent part in legislative and other social action programs which directly affect the welfare of individuals and families
>
> develop mutual understanding and appreciation of differing cultures and ways of life, and cooperate with people of other cultures who are striving to raise levels of living.[1]

Instruction in a comprehensive home economics program designed to implement achievement of the above competencies includes the following areas of home and family living:

> Clothing and textiles — selection, care, repair, and construction of clothing; consumer purchasing of clothing and textiles.
>
> Food and nutrition — family meal planning, preparation, and service; nutrition needs of the family and individuals at various developmental stages; food buying and storing.
>
> Child development, care and guidance — care of children by providing for physical, social, and emotional needs at various developmental stages.

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[1] Olive Hall and B. Paolucci, Teaching Home Economics (New York: John Wiley and Sons, Inc., 1961), pp. 161-162.

> Housing and home furnishings — family housing needs; selection, care and use of home furnishings and equipment.
>
> Health and home care of the sick — maintenance of mental and physical well-being; maintenance of safe, sanitary environment.
>
> Family and social relationships — personal development; responsibilities and rewards of constructive group living in family and community.
>
> Home management and family economics — recognition and effective use of human and material resources to achieve goals; consumer problems in relation to personal and family food, clothing, and shelter.
>
> Art in the home — principles of color, line, and design as they apply to family food, clothing, and shelter.

The casual familiarity of nearly every person with the above listed content areas of home economics, due just to everyday living, often serves as a basis for dismissal of the importance of these areas for formal study. Yet a few minutes of reflection on the role of the homemaker in today's complex society should point up the increasingly cognitive nature of the homemaker's job.

The technological developments that on the surface appear to reduce work or make tasks easier more often than not demand special kinds of know-how that are essential before particular tools or products can be used and/or developed effectively and efficiently. For example, consider what the homemaker needs to know: to select from ready-prepared food products an adequate diet for her family; to evaluate the many pressures of mass communication that deal with everything from the family wash to child rearing; to operate and care for the many expensive mechanical appliances of the household to obtain from them optimum efficient use; to rear children who will become physically and emotionally sound, mature, responsible adults in a complex, rapidly changing environment. Even these few instances should illustrate that the ability to establish and maintain a home is too complex to be left to chance. From a study of 13,000 Texas high school youngsters, sociologist Bernice Moore concluded from the data that:

> Capacities for family living and skills for homemaking have to be studied and learned. This is no less true than that future scientific and technological achievement rests upon an educational base.[1]

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[1] Beulah I. Coon, Home Economics Instruction in the Secondary Schools (Washington: The Center for Applied Research in Education, Inc., 1964), p. 4.

Worthy home membership was listed as early as 1918 as one of seven cardinal principles of secondary education. Subsequent publications which have stressed general goals of education have reaffirmed and further refined the meaning and importance of this goal.[1] Thus, a case is made for provision of opportunity for all youth and adults, in school and out, to study home economics.

## Home Economics for Wage Earning Occupations Outside the Home

The passage of the National Vocational Education Act of 1963 enlisted a new dimension in home economics education: home economics related to wage earning. The concern of home economics for wage earning can be justified not only on the strength of the large number of women employed in the labor force who will as a result of their employment need help with their homemaking activities, but many occupations require certain home economics knowledges and skills as a part of job competence.[2]

Among several jobs that require training in home economics are the following service occupation titles:

Child day-care center worker
Management aide in public housing projects
Visiting homemaker
Hotel and motel housekeeping aide
Supervised food service worker.[3]

In addition to the knowledge and skills of home economics that are requisite to certain specific occupations, home economics instruction can provide many opportunities for helping students to become employable in a general sense. Personal appearance, positive attitudes toward work, good personal relations, and ability to follow directions are among qualities needed by everyone in order to obtain, and remain on, a job. Growth in these characteristics should be stressed in a quality home economics program. And not to be overlooked is the contribution of home economics to development of the fundamental tools of reading, writing, and arithmetic through application of these tools in life situations that are a part of home economics content.

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[1] Ibid., pp. 3-4.

[2] Rua Van Horn, "Home Economics Education for Wage Earners," American Vocational Journal, Vol. 39, No. 4 (April 1964), pp. 23-24.

[3] Curriculum guides have been developed for nine service occupations using home economics knowledge and skills. They are available from the U. S. Department of Health, Education and Welfare.

As a part of the development of occupational training programs in home economics, professional home economists have studied carefully the Vocational Education Act of 1963 and the guiding policies of the prior homemaking program in order to define characteristics of each program. The results are as follows:

## Essential Characteristics for a Program for Homemaking

1. The scope of the instruction is broad as it provides a sequence of learnings that permit increased depth of understanding of those concepts which contribute to home and family living.

2. The program considers the needs of the students enrolled (secondary, out-of-school youth, and adult) as related to the developmental stages, societal changes, and varying abilities and interests.

3. The program is open to all who are interested in using the knowledge and skills necessary for homemaking and who have a desire for improving family life.

4. The instructor will have met the professional requirements for classroom teachers in the field.

5. The program includes supervised experiences both in and out of class, and experiences in problem solving procedures as related to the decision-making process. It assists the individual in identifying his attitudes and values as they relate to home and family living, contains an effective evaluation system, and incorporates findings of research in the field and related disciplines.

6. Facilities for instruction provide opportunities in the classroom on the community for the student to develop an understanding of the concepts identified for all aspects of home and family living.

## Essential Characteristics of a Program of Occupational Training

1. Established evidence of opportunities for employment precedes the organization for occupational training.

2. A course will be repeated only when employment opportunities have been predetermined.

3. The instruction is focused on a specific occupation, and the scope of subject matter used in teaching is defined by a job analysis. The training may be for one or more periods in a school day or for full time for a varying number of weeks or months.

4. The training program will include valid work experience, supervised and evaluated by the instructor and the cooperating employer.

5. Trainees are selected on the basis of predetermined potentials for them to profit by training for a specific occupation.

6. The trainee must be of legal employment age at completion of training.

7. The instructor will have had occupational experience and have sound knowledge of the subject matter to be used in the instructional program.

8. There will be close cooperation between the instructor and the vocational counseling personnel of the school and/or the employment service, in placement and follow-up of trainees.

9. Teaching facilities will be adequate to enable trainees to acquire marketable skills for the occupation.

10. The program may be cooperatively planned and conducted by two or more vocational services, or in cooperation with a community organization or agency.

11. Evaluation of the total program is done in terms of trainee's performance and ability to secure and hold a job.[1]

## Health Service Occupations

The health service occupational matrix is made up of a series "of subprofessional practitioners who require specific vocational preparation, either on an institutional base or through the cooperate activities of school and health agencies."[2] Such programs include training of practical nurses, nurses aides, medical records technicians, X-ray technicians, physical therapy aides, medical assistants, dental assistants, orderlies, dietary aides, and laboratory assistants. In practice, the related professional group (such as the Registered Nurse, to the practical nurse) sets standards and prescribes certain requirements to be met before licensing the subprofessional. The professional "parent" is frequently involved in some part of the training program.

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[1] Rua Van Horn, "How Can We Provide for Education for Homemaking and for Employment in the Home Economics Program at the Post High School Level " Unpublished paper presented at the National Conference on Contemporary Issues in Home Economics Education, University of Illinois, Urbana, Illinois, May 9, 1965.

[2] Vocational Education, 64th Yearbook of the National Society for the Study of Education (1964), p. 126.

Training programs for health occupations are offered at the high school or post high school level.

> In most states supplemental programs are also available for employed adults who require refresher courses for up-grading. Programs in practical nursing are usually one year long and are carried out in cooperation with hospitals and other health agencies. Training programs for other occupations, such as medical, dental, and operating technologies, and other types of health assistants, vary in length from a few months to two years.[1]

## B. The Present Home Economics Education in the Top-O-Michigan Area

### The Day School Program

Data on the high schools represented in this study indicated that for the 1964-65 school year, 19 of the 21 schools had home economics programs. Table 8.1 which shows enrollment figures for boys and girls in those home economics programs includes Boyne Falls as having a home economics program because they employed a home economics teacher, but there was no information on enrollment. Wolverine, which has an extremely small total enrollment in grades 9 through 12 does not have a home economics program.

The enrollment of boys in home economics was virtually non-existent, being limited to the eight boys in the home and family living class at Inland Lakes School and one lone boy at Harbor Springs. Apparently, at least in these two schools, homemaking was available to boys, which is highly desirable.

The percentage of the high school enrollment (girls) in homemaking class ranged widely from a high of 84.6 percent to a low of 7.1 percent with the median at 52.6 percent.

In response to an opinionnaire, 14 of 15 home economics teachers who replied indicated that the primary purpose of home economics education in their schools was "preparation for home and family living through a broad program." In general, high school administrators who were interviewed concurred in this point of view. Support of this purpose was reflected in the departments which were equipped as multi-purpose rooms and which had text and reference materials, though in limited amounts, for teaching a broad homemaking program.

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[1] U. S. Office of Health, Education, and Welfare, Vocational and Technical Education: A Review of Activities in Federally Aided Programs (Washington: U. S. Government Printing Office, 1963).

### TABLE 8.1

### ENROLLMENTS IN HOME ECONOMICS CLASSES
Grades 9 Through 12

| High School | School Enrollment | | Home Ec Class Enrollment | | Percent Enrolled in Home Ec | |
|---|---|---|---|---|---|---|
| | Boys | Girls | Boys | Girls | Boys | Girls |
| Central Lake | 45 | 55 | | | | |
| Ellsworth | 51 | 51 | 0 | 29 | 0.0 | 56.9 |
| Boyne City | 191 | 170 | 0 | 94 | 0.0 | 55.3 |
| Boyne Falls | 24 | 37 | | | | |
| Charlevoix | 175 | 181 | 0 | 75 | 0.0 | 41.4 |
| East Jordan | 136 | 117 | 0 | 84 | 0.0 | 71.8 |
| Cheboygan | 272 | 245 | 0 | 150 | 0.0 | 61.2 |
| Cheboygan Catholic | 142 | 127 | 0 | 9* | 0.0 | 7.1 |
| Inland Lakes | 81 | 87 | 8 | 64 | 9.9 | 73.6 |
| Harbor Springs | 115 | 127 | 1 | 55 | 0.9 | 43.3 |
| Littlefield | 37 | 38 | 0 | 20 | 0.0 | 52.6 |
| Mackinaw City | 52 | 38 | 0 | 9 | 0.0 | 23.7 |
| Pellston | 93 | 84 | 0 | 49 | 0.0 | 58.3 |
| Petoskey | 285 | 278 | 0 | 78 | 0.0 | 28.1 |
| Petoskey St. Francis | 133 | 144 | 0 | 48 | 0.0 | 33.3 |
| Johannesburg | 37 | 26 | 0 | 22 | 0.0 | 84.6 |
| Gaylord | 172 | 159 | | | | |
| Gaylord St. Mary | 90 | 73 | 0 | 16 | 0.0 | 21.9 |
| Vanderbilt | 38 | 32 | 0 | 18 | 0.0 | 56.3 |
| Onaway | 152 | 158 | 0 | 79 | 0.0 | 50.0 |

*Attend homemaking class in Cheboygan High School.

Source: Data collected by study consultant from schools.

Although teachers expressed the broad purpose of home and family living, they reported that the graduates from their schools were most lacking in home management, relationships, and buying skills, and most proficient in skills and knowledge related to clothing and foods.

One-third of the 21 high schools reported that home economics was required in the seventh grade. Also, those same seven school systems required home economics in the eighth grade. Five of the other school systems, for a total of 12, required eighth grades, these schools had 50 percent or more girls enrolled in the high school program with one exception, where fewer than 25 percent of the high school girls were taking homemaking. It is pointed out that in this one case, and only in this instance, the philosophy expressed by the teacher was emphasis on "development of knowledge and skills in areas of home economics related specialized interests."

The high school homemaking programs in the area of this study should continue their focus on the goal of preparation for effective home and family living and renew efforts to provide a truly broad program that emphasizes those areas needing the most study and reflection: management, relationships, consumer problems, and child care and development.

Fifteen homemaking teachers reported that homemaking classes were not open to boys in their schools. Teachers and administrators should come together on this problem and work toward making home economics instruction available to boys as well as stimulating and encouraging boys to be interested in it. Schools that are too small to have a program with fully qualified teachers should try to arrange for teacher and facilities on a shared-time basis with neighboring schools.

Homemaking teachers should be cognizant of the contribution home economics education can make in the development of certain of the personal attributes which make an individual more employable. Positive attitudes toward work, positive personal relations, good grooming and health habits, and social skills are among several qualities that should be emphasized as effective home and family living goals.

There was no evidence of occupational training programs in home economics in any of the 21 schools in this study. Teachers on the whole did not feel qualified to teach occupational training, but this in no way reflects an unwillingness to become prepared. The list, "Essential Characteristics of a Program of Occupational Training," in a previous chapter serves as criteria for determining feasibility of occupational training. Such criteria should be thought through carefully before any decision is made regarding such programs in individual high schools. Area vocational schools are more likely to meet criteria for occupational training.

## The Adult Program

Seven of fifteen homemaking teachers reported adult classes in home economics related content were taught in their communities. None of the courses described by these teachers were occupational training courses, but rather were largely clothing construction for individual personal interest. Homemaking teachers estimated that from 30 to 80 percent of the mothers of their students were employed. The occupations in which these women were employed are factory workers, waitresses, clerk, and cleaning primarily. All of these are occupations which they could enter with little or no special skills, but in which they maybe could advance and improve their skills, and thus their incomes, with some related occupational training. Study should be given to both the employment needs and home management needs, due to employment, of adult women as a guideline for planning training programs. The Bureau of Labor Statistics predicts that two out of three women will be wage earners and that more than half of these will be married women.[1] Table 8.2 shows the distribution of women in the labor force by age, and a projection for 1970.

TABLE 8.2

AGE OF WOMEN IN THE POPULATION AND IN THE LABOR FORCE, 1962

A. THE GENERAL POPULATION

| Age Group | Number | Percent Distribution |
|---|---|---|
| 14-17 | 6,138,000 | 9 |
| 18-24 | 8,617,000 | 15 |
| 25-34 | 11,300,000 | 17 |
| 35-44 | 12,399,000 | 19 |
| 45-54 | 10,648,000 | 12 |
| 55-64 | 8,201,000 | 12 |
| 65 and over | 9,207,000 | 14 |

B. THE LABOR FORCE

| 1962 (years) | Percent in Labor Force | Projection for 1970 (years) | Percent in Labor Force |
|---|---|---|---|
| 14-17 | 4 | 14-19 | 28 |
| 18-24 | 17 | 20-24 | 45 |
| 25-34 | 17 | 25-34 | 37 |
| 35-44 | 23 | 35-44 | 45 |
| 45-54 | 22 | 45-54 | 55 |
| 55-65 | 13 | 55-64 | 43 |
| 65 and over | 4 | 65 and over | 11 |

Source: Rua Van Horn, "How Can We Provide for Education for Homemaking and for Employment in the Home Economics Program at the Post High School Level." Unpublished paper presented at the National Conference on Contemporary Issues in Home Economics Education, University of Illinois, Urbana, Illinois, May 9, 1965, p. 6.

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[1] Illinois Teacher of Home Economics, Vol. VIII, No. 1 (Urbana: University of Illinois), p. 9.

Interviews with hospital personnel directors, restaurant owners, hotel and motel managers and other business people indicated that women in the late 20's and older were more desirable as employees because they were more dependable and stable in terms of staying on the job.

The occupations in which large numbers of women in the nation as a whole work do not vary greatly from the occupations in which the women of this area reportedly work.

TABLE 8.3

OCCUPATIONS OF WOMEN IN THE TOP-O-MICHIGAN LABOR FORCE, 1960

| | Percent of Those Employed by County | | | | | |
|---|---|---|---|---|---|---|
| Occupation | Antrim | Charlevoix | Cheboygan | Emmet | Otsego | Presque Isle |
| Clerical | 18.5 | 18.2 | 19.7 | 6.8 | 5.3 | 4.1 |
| Service Workers (exclusive of domestic workers) | 16.3 | 18.5 | 25.5 | 24.8 | 31.1 | 20.9 |
| Operatives | 21.8 | 21.1 | 07.0 | 3.9 | 19.7 | 9.5 |
| Professional and Technical | 13.1 | 12.2 | 13.4 | 13.8 | 8.8 | 17.7 |
| Household Workers | 10.2 | 09.6 | 10.8 | 13.2 | 6.6 | 5.0 |

Source: U. S. Bureau of the Census, U. S. Census of Population: 1960, General Social and Economic Characteristics, Michigan, Final Report PC (1)-24C (Washington: U. S. Government Printing Office, 1962).

The evidence seems to point to an increase in women workers. Study ought to be given to the kinds of occupations for which they will be needed and can be trained in the economic interests of the area as well as the personal well being of these individuals.

## Instructional Staff, Facilities, and Equipment

Fully qualified homemaking teachers were reported by all but one of the schools in the study. Seventeen of the 22 teachers were qualified for vocational certificates whereas five were not. It appears that the majority of the teachers have had college credit work in the last five years. This judgment is based on date of graduation and subsequent time it would take to earn the permanent certificate. However, several older teachers with long years of experience, as well as younger ones, should plan for in-service workshops or credit classes to keep, or bring, them up-to-date. Consideration should be given to taking work helpful to teaching in the regular homemaking program, but especially should work be taken to familiarze teachers with philosophy, methods, and curriculum development in home economics related occupational training programs. This is such a new area to home economics that no homemaking teacher should shrug the responsibility to make herself informed at least.

Equipment for the traditional areas of food preparation and clothing construction seemed to be quite adequate in quantity and quality in most of the homemaking departments. Less evident to observation were facilities, equipment, and teaching-learning materials for some of the less tangible aspects of homemaking or for child care or home care of the sick. A January 1965 publication of the U. S. Department of Health, Education and Welfare, "Facilities for Programs which Prepare for Employment in Occupations Utilizing Home Economics Knowledge and Skills," lists criteria for determining equipment needed for occupational training classes. It also suggests minimum essential facilities and equipment for specific programs. Reference to this publication in relation to the departments observed shows that several added features, different from present arrangements of equipment and space, would be necessary for the purpose of occupational training classes.

## The Health Occupations

Interviews with hospital personnel elicited the same staccato plea: "We need more nurses." No hospital facility had a full staff of Registered Nurses, Licensed Practical Nurses, or Nurses Aides to fit their needs. Not only were trained persons in these categories in short supply, but their length of tenure on the job was short. An administrator of one large hospital indicated that their participation in the practical nurse training program from another area was not of value to the local hospital because so few of the graduate LPN's stayed on with them.

Trained personnel in other medical technologies were also in demand but not to the extent of nursing personnel. "If a trained technician applies for a job, I hire him even though we may be fully staffed in that position at the time, for I know we will have a vacancy soon," was essentially the remark of one hospital spokesman.

The training of nurses aides can be done in a relatively short period. Such training can be done effectively with senior high school students, out-of-school youth, and adults. As nurses aides are in demand in this six-county area as well as other areas, steps should be taken to promote interest in this occupation and provide training where interest is developed.

There is considerable evidence, especially with the recent federal legislation on hospital care tied to social security, that there will be a growing demand nationwide for workers in the nursing and other health technologies. With the start of a nursing program, and the nucleus of a strong science program at North Central Michigan College, it seems appropriate to study the feasibility of expanding the program in the health field.

## C. Summary of Findings

1. Home economics classes to prepare for homemaking are available to high school girls in the schools in the Top-O-Michigan area in that there are teachers and facilities in the schools. Less evident is the extent to which girls are encouraged to enroll in homemaking through administrative matters such as counseling and scheduling.

2. Home economics classes are not open to boys in the high schools with the exception of two schools.

3. The purpose of the home economics programs as expressed by both teachers and administrators was preparation for home and family living.

4. Implementation of the purpose of preparation for home and family living appeared strongest in the traditional areas of foods and clothing and weakest in the areas of relationships, home management, and consumer buying.

5. There was no evidence of occupational training programs related to home economics in the 21 schools of this study.

6. The adult education program in home economics was very limited. Personal and family clothing construction was the emphasis in the majority of the classes offered. There were apparently no occupational training classes.

7. A large number of women in the Top-O-Michigan were working outside the home with nearly three times as many women working in 1960 as in 1940. Approximately one third of the women are employed in clerical, service, and household worker occupations. (Table 8.3.)

8. For the most part homemaking teachers are fully qualified and 17 of 22 teachers were qualified for vocational homemaking certificates.

9. Equipment and facilities were adequate for teaching clothing and foods, but lacking for teaching other areas of homemaking.

10. Registered nurses, licensed practical nurses, and nurses aides were greatly in demand in the order given. The first listed was in greatest demand and requires the most training.

11. Other occupations related to home economics where there was evidence of need included interior decoration helpers, chefs, salad girls, short order cooks, bakers, housekeepers, and waitresses.

## CHAPTER 9

## INDUSTRIAL EDUCATION*

The purpose of this chapter is to: (1) describe the purpose and range of the field of industrial education; (2) describe the pattern, form, and specific programs of industrial education in Charlevoix, Cheboygan, Emmet, Otsego, and parts of Antrim and Presque Isle Counties, and (3) present and summarize findings obtained from survey questionnaires, school visits, and interviews with industrial, labor and educational leaders in the study area. Recommendations and the proposed plan of industrial education for the six county area are presented in Chapter 12.

### A. The Purpose and Range of Industrial Education

The term "industrial education" as used in this chapter includes the program areas of (1) industrial arts education, (2) trade and industrial education, and (3) technical education. All of these programs are concerned with the industrial phases of work and society. While the emphasis and major purpose of each area is different, they should be considered as complementary, rather than mutually exclusive to each other.

Because the terms of (1) industrial arts, (2) trade and industrial education, and (3) technical education are often misunderstood, the following definitions are presented and used throughout this chapter.

Industrial arts is a study of industry, its materials, processes, products and organization. Through classroom and laboratory experiences with tools and materials, students develop an understanding and appreciation of industry, its development and contributions to our industrial way of life, and the inherent social and technological problems. Emphasis is placed on problem-solving experiences that assist students in solving problems through coordination and integration of other subject areas in the development of the total educational process. Industrial arts programs are operated primarily at the junior and senior high school levels, but with increased emphasis being placed at the elementary school level and adult education programs. While generally conceived as general education (necessary for all individuals), industrial arts at the late high school level can serve as a pre-vocational program and for certain individual students meet a vocational need, if structured accordingly.

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Trade and industrial education is that aspect of vocational education designed to prepare persons for gainful employment in trades, industrial pursuits, and other closely related occupations. Some trade and industrial education programs prepare individuals for entrance into an industrial occupation which is new to them, while other programs are designed to improve or upgrade the competency of persons already employed in an occupation. These programs are found at both the high school and post-high school levels.

Technical education is that aspect of vocational education designed to prepare technicians in a variety of occupational fields related to industry. The best known type of technicians are those associated with the field of engineering. For this study, the engineering technician as defined by the American Society for Engineering Education was used.

> An engineering technician engages in work that requires some of the knowledge and skills of both the professional engineer and the craftsman. He is required to know basic theories and to apply them in helping to solve complex problems of modern industry. . . . The engineering technician usually specializes in one aspect of engineering. He might, for example, work as a draftsman, a detail designer, a cost-estimator, a production supervisor, a research assistant, a quality control supervisor, a time study man, an expeditor, a technical salesman, or a production planner.[1]

Technician training programs are offered almost always as post-high school programs and usually identified as the 13th and 14th years of education.

## B. Essential Characteristics of a Total Program of Industrial Education

Programs of industrial education should be available to serve all age groups. In the elementary grades, industrial arts is used to enrich and support the over-all general education program through an activity-type learning program where construction activities using tools and materials are an integral phase of various units of study.

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[1] Technical Institute Division, American Society for Engineering Education, The Engineering Technician (New York: McGraw-Hill Book Co., 1960), p. 3.

At the junior high school level, industrial arts as a separate but related subject area should be found. A comprehensive program of industrial arts at this level should provide students with exploratory experiences in as many areas as possible. Programs should emphasize application of concepts from other classes, development of the students concept of their own abilities and limitations and provide students with the opportunity to become actively involved in studying, planning, organizing, constructing, experimenting, testing, servicing, and evaluating materials processes, and products of industry. A minimum of one semester, but preferably one year of industrial arts at either the 7th, 8th or 9th grade level should be required of all students, both boys and girls, with additional courses available to all students on an elective basis.

At the high school level, industrial arts courses should be available to all students on an elective basis. Traditionally, the areas of woodworking and mechanical drawing have received the greatest emphasis. Today increased emphasis must be placed on metals-processing and fabrication, electricity-electronics, power mechanics, drafting-design and illustration, graphic arts, material testing, research and experimentation, product servicing, and residential building. At the senior high school level, students should have the opportunity to continue to explore various areas of industrial arts, thus building on their junior high school experiences. Industrial arts programs can contribute to individual vocational needs of certain students by providing concentration in depth in certain areas that will assist a student in preparing to meet an occupational goal.

Along with the industrial arts programs at the 10th, 11th and 12th grades, specific vocational programs in the trade and industrial area should be available to all students who desire such preparation. These programs should commence no earlier than the 11th grade, but should definitely be available to all students in the 12th grade. Occupational preparation should be the primary function of these courses. In some cases, the training program can be very specific and provide skills necessary for entry level positions in the occupation. In other courses, basic skills necessary for groups or clusters of occupations should be emphasized so the student will have a range of occupational possibilities.

A needed area and one often neglected is short-term, specific job preparation for some of the lower level occupations such as sweeper, machine operator, janitor, and gas station attendant. In any event, a wide range of different program offerings that provide preparation for a variety of occupations should be available in any program of trade and industrial education. In smaller high schools where it may be impossible to develop realistic comprehensive programs of trade and industrial education, the development of area vocational schools or shared-time programs between various schools should be considered. In addition, programs of trade and industrial education at the high school level should provide for supervised practical on-the-job experiences that can be arranged through cooperative education programs.

Where no or very limited vocational industrial education opportunities are available to students at the high school level, these opportunities should be provided at the post-high school, at no cost to the student, in area vocational centers or vocational-technical institutes, operated independently or as part of a community college.

Post-high school programs and courses of vocational technical education should also be available for adults for retraining, promotion and upgrading, and general interest purposes. These may be part time or full time.

A truly quality program of industrial education must assist in providing for the maximum development of each student's talents and abilities to the fullest, regardless of difference in talents and abilities between individual students.

In order to achieve these goals, adequate buildings and equipment are necessary, qualified and well-trained teachers are needed, and there must be effective liaison between the school and the community. Adequate provisions must be made to inform students of employment needs and opportunities, to determine their interests and capabilities with regard to various fields of occupational training, to provide excellent technical and related instruction as well as needed general education, and to insure adequate placement and follow-ups. The absence of any one of these factors can seriously jeopardize the potential success of a total industrial education program.

## C. Occupational Trends and Implications for Industrial Education

Occupational needs are constantly changing as new technological developments occur. Some of the more important trends predicted by the U. S Bureau of Labor Statistics are as follows:

1. Fewer unskilled occupational opportunities will be available but an increasing number of skilled and semi-skilled workers will be needed. However, the needs for semi-skilled workers will not increase as rapidly as some other major occupational groups, but will continue to rank with the clerical workers category as the top two occupational groups with one worker in every six employed in a semi-skilled job.

2. Of the professional-technical occupational group, the needs for technicians will continue to rise in existing and new areas as technological developments and changes are made.

3. The most rapidly growing industrial occupational area is the service worker group, while the electronics industry is one of the more rapidly expanding industries.

4. Construction workers will be needed in increasingly larger numbers with an estimated 400 thousand carpenters needed by 1975. In the manufacturing industries, it is estimated that 200 thousand general machinists will be needed by the same year.

5. The labor force (employed and unemployed) is growing faster than our population growth, but because of the changing nature of occupational needs and trends, workers of the future may have to change occupations three or more times in order to remain employed.

With the increasing need for highly skilled persons and the decreasing lower level job opportunities, it will become exceedingly difficult to prepare individuals at the high school level with entry level skills needed for the available jobs. Furthermore, graduates of high schools, even when properly trained, will find it increasingly difficult to find employment commensurate with their training because employers in manufacturing and industrial pursuits tend to hire at low levels and then promote or upgrade their workers. This suggests that in most cases, high school programs of industrial vocational education should be more general in nature and concentrate on basic skills necessary for groups or clusters of occupations rather than attempt to prepare individuals for a specific single occupation. Pre-vocational programs that lead to post-high school programs in trade and industrial education and in technical education are another example of appropriate high school level programs in industrial education.

In the area of service occupations, which will provide a major source of employment for high school graduates in future years, specific high school programs should be developed that will provide graduates with entry level skills needed for initial employment.

As higher skill and competency will be required in our work force, along with newly emerging industrial occupations, it becomes imperative that broad-range trade and industrial education and technical education programs be developed at the post-high school level for initial entry, retraining and upgrading purposes to serve the needs of high school graduates, individuals currently employed or unemployed, and school dropouts.

With the many changes that are constantly taking place in the industrial world, it becomes imperative that programs of industrial education remain flexible and attuned to changing occupational training needs on the local, state and national scene.

## D. The Present Program of Industrial Education in the Top-O-Michigan Area

### Procedures and Sources of Information

Questionnaires were completed by the superintendent or high school principal of each participating school providing data regarding course and sequence offerings in industrial education, instructional staff experience and qualifications, enrollments and drop-out statistics. Other sources of information were: the follow-up study of 1963 graduates and drop-outs, the occupational interest questionnaire to 11th graders and their parents, basic demographic data on the area, and an opinionnaire distributed to all teachers of industrial education.

Visitations were made to all of the 21 high schools by one or more of the team of vocational consultants. Interviews were conducted with many owners, managers and personnel directors of major manufacturing, construction and service industries in the geographical area. A total of 30 major industries were visited and interviews conducted with one or more persons in each. A combined total of 3,500 to 3,600 persons were employed by these industries. Other interviews were conducted with Chamber of Commerce presidents, school board members, and the administrative and instructional staff at the North Central Michigan College.

### Status of Present Programs of Industrial Education

Although specific comments are made regarding programs at certain schools (for illustrative purposes), the primary purpose of this study was to assess the status of the total program of industrial education in the six-county area, and to plan for the future. No attempt should be made to interpret these findings and comments as a complete evaluation of individual school programs.

### Secondary Level

No bona fide total program of vocational education in the area of industrial education, as described in part B of this chapter, was found in any of the various high school districts. The Gaylord Community High School has the necessary space existing in their new building and are planning to offer vocational programs in the areas of auto mechanics, metal machining and fabrication, drafting, and some building trades. Equipment, some of which is on order, and staffing appear to be the only problems to be overcome. The Petoskey school system also plans to provide vocational instruction in the areas of metal machining, electricity-electronics, drafting, and possibly some offering in the building trade area in the new high school, which is presently under construction. Cheboygan Public Schools has future plans to include some vocational industrial education in their program pending the building of a new high school.

One of the major problems faced by any school district, when attempting to offer vocational education, is finding qualified instructional staff who meet the Michigan certification requirements. Such is the case in this geographical area, where of the 24 teachers of industrial education classes, only seven currently meet vocational certification requirements in the area of trade and industrial education. Vocationally certified teachers were found in the following school districts: two in Charlevoix and one each in Cheboygan, East Jordan, Gaylord, Inland Lakes, and Petoskey.

While significant industrial vocational offerings are generally not available to high school students, it was noted that industrial arts offerings were available to students in 20 of the 21 high schools. In the case of the parochial schools, shared-time programs are operating with the local public schools. However, many of these industrial arts programs were rather narrow in terms of areas of experience offered. All of the programs provided woodworking instruction with primary emphasis given to this area of instruction. Most programs also offered courses in drafting. Only programs at Charlevoix, Cheboygan, East Jordan and Petoskey provided fairly broad-gauge instruction in metals areas. Limited instruction in metals is provided at Boyne City, Gaylord, Johannesburg, and planned for Onaway commencing in the Fall of 1965. Gaylord has the only power mechanics program currently in operation. Electronics is offered only at Petoskey; however, a science teacher at Boyne City High School does an extensive amount of work in the electricity-electronics areas. No graphic arts instruction is available and only very limited experience is provided in any of the construction areas, usually confined to carpentry as a unit of a woodworking course. At no single school was a truly comprehensive industrial arts program found as described in part B of this chapter.

An opinionnaire for teachers of industrial education was sent to 22 teachers with 13 (or 59 percent) returning completed opinionnaire forms. In general, opinionnaire responses and interviews with teachers revealed a genuine concern to expand and broaden the range of experience areas available in programs of industrial education to high school students. The need to expand and offer more areas of instruction was cited by 54 percent of the teachers as one of the most important changes or improvements needed in the present high school industrial education curriculum. Other improvements cited were: the need for replacement or additional tools and equipment by 39 percent, the need for textbooks and instructional materials by 23 percent, the need to schedule special classes for the mentally retarded and slow learners by 16 percent, and the need to reduce class size and class load by 39 percent of the respondents.

Two basic reasons appear to be responsible for the narrow range programs and lack of necessary equipment, tools and instructional materials: (1) continued lack of school board, administrative, and financial support to expand and develop comprehensive programs by providing necessary space, equipment, and supplies; and (2) reluctance on the part of teachers to develop programs in new areas or areas where they feel unqualified or to make their needs known in an effective manner.

The practice of scheduling beginning, advanced, and special education students into the same class of industrial arts and titling many of these courses "Shop I or Shop II" was found to be a common practice in many schools but is one that should be eliminated. If this undesirable practice is followed, a teaching situation often arises where such extreme differences in experience and capabilities of students, make it relatively impossible to provide an effective program for all groups. By using specific course titles that are descriptive of the instructional program, both students and counselors will be better informed how a particular course might meet the needs of a student. Furthermore, if courses are sequential in nature, students without the necessary prerequisites should not be enrolled with students who have had previous experiences or requisites.

Very little evidence of cooperative programs in industrial education at the high school level was found in the study area. By cooperative programs is meant an educational program where the school and various industries cooperatively participate in providing a realistic situation where students can learn and develop the necessary skills for industrial employment. Usually the student attends his regular school for half-day participation in three or four regularly scheduled classes, one of which is related to his industrial employment situation. During the other half day, the student works part time in a selected and participating industry. Instruction in the classroom is correlated and related to the on-the-job experience through regularly scheduled visitations by an industrial education coordinator to the work situation.

From discussions with owners and managers of industrial production and and servicing concerns, it would appear that industry is generally willing to participate in such programs and cooperatively work with the schools in providing supervised work experience opportunities for high school youth.

Table 9.1 provides a summary of responses of high school level industrial arts teachers regarding beliefs as to what industrial arts should do.

TABLE 9.1

BELIEFS OF INDUSTRIAL ARTS TEACHERS ABOUT WHAT A HIGH SCHOOL LEVEL INDUSTRIAL ARTS PROGRAM SHOULD DO

| Response Choices | Number | Percent |
|---|---|---|
| a. Provide broad experiences in many areas for general education purposes only. | 0 | 0 |
| b. Provide broad experiences in many areas for general education and pre-vocational purposes. | 4 | 25.0 |
| c. Provide broad experiences in many areas with the opportunity to specialize in a specific area at perhaps the 12th grade level. | 3 | 18.7 |
| d. Provide students with specific skills needed for entry into the skilled industrial production and servicing occupations. | 2 | 12.5 |
| e. Provide general education for some students, pre-vocational training for others, and specific job training for still other students. | 7 | 43.7 |
| Totals | 16 | 99.9 |

Source: Opinionnaire to industrial arts teachers.

The response pattern in Table 9.1 indicates that most of the teachers of industrial arts believe that a high school industrial arts program should provide broad experiences for general education purposes, pre-vocational preparation for some, and the opportunity to specialize or acquire specific job training at the 12th grade level for still other students.

### Post-High School Level

At this level, no real programs of trade and industrial education, operated and supported by the various educational institutions, were found in the entire study area. Individual courses in adult education programs have been offered at various times in the past in areas such as: electronics, machine shop, and drafting, but complete programs or sequences of courses that prepare individuals with entry level skills in trade areas are not available.

A few apprentice programs in manufacturing, service, and building trade areas have been operated at various times in the area by various agencies in cooperation with the apprenticeship office of the Vocational Division of the State Department of Education. A few manpower retraining programs and other limited offerings comprise the remaining opportunities available for post-high school trade and industrial education. In general, opportunity for post-high school trade and industrial education is woefully lacking and the need continues to exist for a comprehensive organized total program of industrial education, at the trade and industrial level, administered by the educational agencies in the area.

In the area of technical training, no bona fide programs of technician training were found in the area of industrial education. Normally one would expect to find such programs offered and administered by the local community college. A program of paper technology is described in the college catalog, but in reality this program along with the engineering curriculum are transfer-type programs geared to four-year institutions instead of two-year technician programs leading to employment. A discussion with the engineering faculty at North Central Michigan College revealed a strong allegiance to "academic" engineering and technical work that can be transferred to four-year institutions. An extreme reluctance and hesitancy was expressed to become involved with terminal courses (employment-bound), programs of two years or less, or non-college credit type of technical offerings. This expressed view of the faculty was not in agreement with views expressed by others in the community regarding the role of a community college.

TABLE 9.2

TYPES OR LEVELS OF INDUSTRIAL EDUCATION THAT SHOULD BE OFFERED IN A POST-HIGH SCHOOL INSTITUTION SERVING THE COUNTY AREA

| Response Choices | Must Offer | | Could Offer | |
|---|---|---|---|---|
| | No. | Percent | No. | Percent |
| a. Intensive 3-9 months programs, full time for high school graduates or drop-outs, giving entry level industrial skills. | 5 | 21.0 | 6 | 27.4 |
| b. One- or two-year, full-time programs giving technician training for industry but little general education (not collegiate credit). | 8 | 33.3 | 3 | 13.6 |
| c. Two-year associate degree curricula providing education for subprofessional jobs in industry. | 2 | 8.3 | 3 | 13.6 |
| d. Adult education, part time to build skills and prepare for advancement those already working. | 7 | 29.1 | 5 | 22.7 |
| e. Intensive, full-time retraining programs. | 2 | 8.3 | 5 | 22.7 |
| Totals | 24 | 100.0 | 22 | 100.0 |

Source: Opinionnaire sent to industrial teachers.

An analysis of Table 9.2 reveals that teachers of industrial education in the area support the notion that a post-high school institution must offer (1) one- or two-year, full-time, non-college credit programs providing technician training for industry with little general education, (2) adult education, part time to build skills and prepare for advancement those who are already working, and (3) intensive 3-to-9 months programs for high school graduates or dropouts providing entry level skills.

The need for post-high school short or long term training programs in industrial pursuits continues to exist. As reported in the occupational interest study of current 11th graders and presented in Table 9.5, approximately 21 percent of these students have indicated a desire to pursue additional schooling after high school graduation in the areas of skilled trades such as: auto mechanics, carpentry, and electrician; or technician training in areas such as electronics and drafting. Many individuals who could profit by such training are either forced to: (1) do without, (2) leave the local area and seek such specialized training at other two year community colleges or private technical schools, or (3) enter programs at the North Central Michigan College that they are not interested in or unqualified for with an excellent chance of becoming a college dropout or failure statistic.

## Needed Areas or Programs of Industrial Education

Several sources of information were used to identify occupational areas where training programs are needed. Interviews with owners or managers of 30 industrial concerns, school administrators and teachers, business and lay persons, and responses to the opinionnaire by teachers of industrial education were several of the sources. Background demographic data about the area and the changes that have taken place were also studied.

In 1960, a total of approximately 24,000 persons were employed in the six-county area. Of these, approximately 16,000 or 66 percent were men and 8,000 or 33 percent were women. In Table 9.3 the distribution of these workers is shown according to the three industry groups which are closely related to the field of industrial education.

In 1960, 29.7 percent of the total persons employed were working in construction, manufacturing, or mining industries and 26.1 percent of total employed were male. Manufacturing of both durable and non-durable goods accounted for 18.9 percent of the total employed. Some of the major subgroups within the manufacturing category are listed below.

| Manufacturing Group | Persons Employed, 1960 |
|---|---|
| Furniture | 770 |
| Other durable goods | 690 |

| | |
|---|---|
| Fabricated metal products | 686 |
| Machinery except electrical | 557 |
| Motor vehicles and equipment | 475 |
| Food and kindred products | 430 |
| Primary metal industries | 329 |
| Non-specified manufacturing industries | 324 |

TABLE 9.3

PERSONS EMPLOYED BY THREE INDUSTRY GROUPS AND PERCENT OF TOTAL EMPLOYED - 1960

| | Industry Group | | | | % Total |
|---|---|---|---|---|---|
| | Construction | Manufacturing | Mining | Totals 3 Groups | Employed 1960 |
| No. employed female | 65 | 813 | 0 | 878 | 3.6% |
| No. employed male | 1,799 | 3,719 | 746 | 6,264 | 26.1% |
| Totals male & female | 1,864 | 4,532 | 746 | 7,142 | 29.7% |
| % of 24,000 total employed 1960 | 7.7% | 18.9% | 3.1% | 29.7% | |

Source: U. S. Census of Population, 1960.

Not always has this concentration of employees been employed in these types of industries. In 1960, craftsmen, foremen, and kindred workers numbered 3,178, or 13.6 percent of total employed, which was a 90.7 percent increase over the 1940 figures. Operatives and kindred workers accounted for 19.8 percent of the total employed which represented an increase of 103.9 percent from 1940 to 1960. Likewise, service workers, except private household, rose 125.5 percent during the same period and accounted for 10.7 percent of the total employed in 1960. These occupational classifications represent those that appear to be experiencing the greatest expansion and growth in the six county area. All other groups showed a growth of less than 41 percent or have declined up to 71 percent.

From all indications, it would appear that the six-county area has over a period of years, maintained a significant and steady growth of manufacturing, construction, and service industry in line with the trends in Michigan and nationally. The population growth in this study area from 1940 to 1960 showed a net gain of 3,400 persons or a growth rate of 5 percent and corresponded very closely to the 3,000 more persons employed in 1960 than in 1940, with the majority of this growth in manufacturing, construction and service areas. It therefore becomes apparent that many individuals have been forced to change their type of employment or leave the community. Furthermore, 34 percent of the 549 high school graduates of 1963 who responded to the follow-up study questionnaire were residing currently in a Michigan county not adjacent to the one they lived in when they graduated from high school or were living currently in another state. Twenty percent of those who moved indicated that they did so to either take a job or to seek a job. This and other evidence of mobility away from the area, and evidence of growing and declining occupations, makes it imperative that programs of vocational education not only reflect the local area needs but consider the larger community of the state and nation and their needs. All of these considerations are reflected in the final list of occupational areas where industrial vocational programs are needed (presented in Table 9.5).

In Table 9.4 the responses of teachers of industrial education in the six county area indicate the degree of importance they attach to providing vocational training for certain job classifications in a post-high school institution serving the area.

TABLE 9.4

IMPORTANCE GIVEN TO THE AVAILABILITY OF VOCATIONAL TRAINING FOR CERTAIN JOBS IN AN AREA POST-HIGH SCHOOL INSTITUTION AS SEEN BY AREA TEACHERS OF INDUSTRIAL EDUCATION

| | Total Number of Responses | | | |
|---|---|---|---|---|
| Types of Jobs | -1 Point not important | +1 Point should be offered when school expands | +2 Points must be offered from the first | Total Points |
| a. Auto mechanic | 0 | 7 | 6 | 19* |
| b. Small engine repair | 0 | 6 | 8 | 22 |
| c. Auto body & collision repair | 2 | 7 | 4 | 13 |
| d. Machinery repair | 1 | 8 | 2 | 11 |
| e. Appliance repair | 1 | 6 | 5 | 15 |
| f. Radio and T.V. repair | 2 | 7 | 3 | 11 |
| g. Electronics & instrumentation technician | 1 | 4 | 5 | 13 |
| h. Welder & metal fabricator | 0 | 5 | 8 | 21 |
| i. Machine operator | 0 | 4 | 8 | 20 |
| j. Machinist, tool & die maker | 0 | 6 | 6 | 18 |
| k. Architectural draftsman - residential, structural, and detail | 0 | 7 | 6 | 19 |
| l. Technical drafting, tool & die design, production illustration | 1 | 6 | 4 | 13 |

TABLE 9.4--Continued

| Types of Jobs | Total Number of Responses | | | Total Points |
|---|---|---|---|---|
| | -1 Point not important | +1 Point should be offered when school expands | +2 Points must be offered from the first | |
| m. Commercial artist | 1 | 9 | 2 | 12 |
| n. Building & construction trades, electrician, plumber, mason, carpenter | 0 | 4 | 9 | 22 |
| o. Engineering & mechanical technician | 0 | 11 | 1 | 12 |
| p. Production technician | 2 | 9 | 1 | 8 |
| q. Cabinet making & woodworking | 0 | 5 | 7 | 19 |
| r. Printing | 2 | 7 | 1 | 6 |

*All points in this column were computed by adding points for each of the three types of responses according to the weighted scale of points for each response.

Source: Opinionnaire to industrial education teachers.

As shown in Table 9.4, teachers of industrial education in the six county area collectively feel that priority should be given to offering from the beginning in any post-high school institution vocational instruction in the following areas:

1. Small engine repair
2. Building and construction trades — electrician, plumber, mason, carpenter
3. Welder and metal fabricator
4. Machine operator
5. Auto mechanic
6. Architectural draftsman — residential, structural and detail
7. Cabinet making and woodworking
8. Machinist, tool and die maker.

A final list of occupational areas where vocational training programs are needed or critically needed in the six county area is given in Table 9.5.

## TABLE 9.5

## OCCUPATIONAL AREAS WHERE INDUSTRIAL VOCATIONAL PROGRAMS ARE NEEDED

| Occupation | Needed | Critically needed |
|---|---|---|
| Appliance repair | X | |
| Auto body repair and painting | X | |
| Auto mechanic | | X |
| Carpenter | X | |
| Chemical technician | X | |
| Draftsman — general | | X |
| Electrician | | X |
| Electronics technician | | X |
| Foreman and supervisor training | | X |
| Heating, air conditioning & refrigeration specialist | X | |
| Industrial production technician | X | |
| Machinery repair & general maintenance | X | |
| Machine operators | | X |
| Machinist — tool and die makers | | X |
| Marine repair and finisher | X | |
| Mason (brick, block, concrete) | X | |
| Metal fabricator (welder) | | X |
| Outboard motor & small engine repair | X | |
| Pattern makers and woodworkers | X | |
| Plumbing and mechanical | | X |
| Printer | X | |
| Radio and T.V. repair | | X |
| Service station attendant | | X |
| Structural draftsman | X | |
| Tool and die designer | | X |

Source: Data presented previously in this chapter, interviews with industrial and business leaders, and data concerning local, state and national employment and occupational trends.

Very few opportunities were found in the six county area for occupational training in the occupational areas that are listed in Table 9.5. Instructional programs for these areas would vary in level of training and type of institution. Normally some of these programs should be available at the high school level in the regular high school day school program or as part of an adult evening school program. Other offerings would be part of a community college curriculum providing collegiate credit programs of two years or less, as well as non-collegiate credit, short-term programs. Some programs could be sponsored and administered by other community agencies such as, manufacturers association, builders organization, trade association, etc. The important consideration is that a wider range of programs and offerings in the industrial education area must be available to the youth and adults of the community than is currently available. Some estimates of annual entry opportunities for qualified persons in some industrial occupations are given in Table 9.6.

TABLE 9.6

ESTIMATES OF THE NUMBER OF TRAINED PERSONS THAT COULD BE PLACED IN SELECTED INDUSTRIAL AND TECHNICAL OCCUPATIONS IN THE LOCAL AREA[a]

| Occupational Classification | Persons Needed |
|---|---|
| Auto mechanic (1st class) | 35 |
| Carpenter (1st class) | 20 |
| Chemical technician | 2 |
| Drafting technician | 6 |
| Electrician (1st class) | 10 |
| Electronics technician | 4 |
| Industrial production technician | 4 |
| Instrumentation technician | 4 |
| Machine operators | 20 |
| Machinist tool and die maker | 10 |
| Mason | 6 |
| Outboard motor and small engine repairman | 10 |
| Plumber (1st class) | 10 |
| Printer | 6 |
| Radio and television repairman (1st class) | 10 |
| Service station attendant | 50 |
| Tool and die designer | 6 |
| Welder (1st class, all position) | 10 |
| Total | 223[b] |

[a] Estimates are based on data acquired from interviews with industrial managers and owners and census data.

[b] While this figure reflects an estimate of the total industrial occupational needs at the present time in the six county area, it does not take into account the generally large number of persons needed in other parts of Michigan and the nation in the same occupation. These figures should not be used as the sole basis for course or program offerings because many individuals currently leaving the community to seek employment and training elsewhere, could obtain training in the local area prior to eventually being employed elsewhere as trained personnel.

## Summary of Findings and Data Obtained and Presented in This Chapter

1. The community has recently recognized the need to provide appropriate programs of vocational education for those students who desire it along with the existing high school college preparatory programs.

2. With many high school graduates moving from the area, as reported in the follow-up study of 1963 graduates where 20 percent of the 34 percent who had moved some distance from home indicated they did so to seek or take a job, there appears to be a growing realization and commitment to the importance of providing these youth as well as others with a more appropriate type of education so they can effectively take their place in the world of work.

3. Because industrial arts is the primary form of industrial education offered in any of the area high schools, students interested in specific vocational training in industrial occupation are often denied the opportunity for such education at the high school level.

4. Industrial arts teachers in the area tend to believe that a high school industrial arts program should provide broad experiences for general education purposes, pre-vocational preparation for some and specialization or specific job training at the 12th grade level for still others.

5. In general, the industrial arts programs found in the K - 12 school districts are rather narrow and restricted with major emphasis on woodworking and drafting. Broader programs and offerings were found at Charlevoix, Cheboygan, East Jordan, Gaylord, and Petoskey. However, even these programs cannot be considered completely adequate in providing the broad range of experiences necessary for a quality industrial arts program.

6. Individual industrial arts teachers in the six county area are generally interested and recognize the need to expand their program offerings with 54 percent of the teachers who responded to the opinionnaire indicating the need for program expansion as one of the most important improvements to be made. Teachers revealed a willingness to expand programs, but many times they feel as if they are pushing against the tide with lack of administrative and financial support.

7. The practice of placing beginning and advanced students or slow learners together in the same class in industrial arts is a common practice, but one that should be avoided.

8. With the low density of population and the lack of major concentration in any single school district, it would appear that most of the specific industrial vocational education at the pre-employment level must take place at the post-high school level since no single school has a bona fide program of vocational industrial education. However, post-high school trade and industrial or technical education programs are practically non-existent in the six county area.

9. Approximately 20 percent of the current 11th graders who responded to the occupational interest questionnaire indicated a desire to pursue additional schooling after graduation in the skilled trades or technician training areas, if training could be obtained in their local area.

10. The North Central Michigan College has not developed or offered terminal programs in trade and industrial or technical education areas. The engineering and paper technology programs are transfer programs to four year institutions.

11. The engineering staff at North Central Michigan College is not interested in working with terminal programs of two years or less and short term technical offerings of non-college credit and does not see these types of offerings as a respectable function of the college.

12. In 1960, approximately 30 percent of the working force was employed in the combined areas of construction, manufacturing and mining.

13. Craftsmen, foremen, and kindred workers; operators and kindred workers; and service workers, except private household, are the fastest growing occupational areas in the six county area and show an average gain of better than 100 percent from 1940 to 1960.

14. In the building trades area, some apprentice programs have been operated locally by the local contractors organization with assistance from other agencies, but these programs are generally not very visible.

15. Programs of industrial vocational education appear to be needed in many areas. For example, some are: auto mechanics, small engine repair, machine operators, carpentry, masonry, electrical wiring, plumbing and mechanical, and metal fabrication.

16. There is little evidence of cooperative education programs functioning in the area of industrial education.

17. Programs or courses are needed for foremen and supervisory personnel in the manufacturing, production and construction industries.

18. Greatly expanded program offerings in vocational industrial education should be available at high school and post-high school levels to all students and adults in the community who need or desire such education.

## E. Summary of Findings

Virtually no vocational education in the trade and industrial areas is available at the high school level and very little provided at the adult or post-high school level. Furthermore, no technical education or technician training is available at the North Central Michigan College. A commitment must be made by the community and all educational agencies to recognize the deficiency in their educational system and take immediate steps to remedy the situation. Because of the nature of the six county area and the impossibility of any single school district to independently develop and support a broad gauge program in industrial education, it becomes imperative that all agencies cooperatively work together to provide broader education opportunities to all youth and adults in the community.

# CHAPTER 10*

# EDUCATION FOR OFFICE OCCUPATIONS

The term, business education, is often used to mean office education, but in this study report the term business education is an all-inclusive one meaning education for all business functions including marketing. However, this chapter concentrates on office occupations while another chapter describes distributive occupations education.

This chapter discusses office occupations describing the present program of high school and community college preparation, outlining the needs for office education, and recommending what a total program should be in terms of the contributions of area vocational schools.

## A. Procedures Used In This Study

As described in Chapter 1, many sources of information were tapped to gain insight into present programs and future needs. For office education, two staff members made observational visits to all schools, a questionnaire was sent to all business teachers in the six counties, interviews were held with businessmen and school administrators. Data was also obtained from government documents and from reports submitted by each school administrator.

## B. A Comparative Model of Office Education

The field of office education may be defined as a program of instruction for people who are, or intend to be, employed in accounting, clerical, stenographic, secretarial, or office management positions. Such people may be employed as rank-and-file workers or may be in supervisory or managerial positions, and therefore, preparation for such positions includes education of a collegiate nature. Office positions may be found in all kinds of enterprises including industry, business, and government. It is important to recognize that many office occupations are highly skilled and call for considerable education even though no supervisory or managerial responsibilities are undertaken; consider, for example, the executive secretary, the data processing programmer, and the legal or medical secretary.

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*Written principally by Dr. Peter Haines with assistance through school observations and visitations by Edward Ferguson.

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A comprehensive program of office education should serve both youth and adults: (1) those already employed and those who wish to be, (2) those who need refresher training after being out of the labor market, and (3) those who wish to up-grade themselves to positions of more responsibility and higher remuneration. A total program of office education must include a vocational program in the high school (or post high school), an adult program, and sub-professional curricula of collegiate nature beyond the high school.

A total program in office education provides not only basic skill training for low-level positions, but for higher level positions must also develop many other competencies required in the facilitating functions of the firm including supervisory ability, recording and communications skills of high standard, understandings of office management and systems, and a broad understanding of business administration and economic principles. A sound program of office education also contributes to students with occupational goals in other areas, such as managers of small businesses, by giving them office skills and understandings of office and record-keeping procedures.

In some places, including many schools visited, the term, commercial education, is used to describe office education. However, that term is very old-fashioned and is not suitable to describe a program of education that trains people for office functions.

## General Business Education

While the field of business education has two vocational functions — one serving the office occupations and the other serving the distributive occupations — a third function is recognized as a necessary one. This is the role of business education in contributing to the general education of all individuals and to the pre-vocational education of those who will choose vocational office or distributive education.

General business education courses should give persons a basic understanding of our economic system, assisting them in their everyday roles as consumers of goods and business services and as economic citizens. Typically, courses such as General Business in the 9-10 grade and senior courses such as Advanced General Business, Consumer Economics and Economics are useful to fulfill this function. At the community college level a similar function can be served by a course in Personal Finance. The function of general business education also includes providing individuals with personal business skills such as typewriting.

Business education also has a pre-vocational function, that is, to provide occupational orientation to business, background information about business, background information about business, and basic skills needed in the vocational programs. At the high school level courses in general business and first year typewriting serve this pre-vocational function. At the college level, courses in Introduction to Business, Typewriting, Management, Basic Accounting, and Economics provide for this pre-vocational function.

TABLE 10.1

WHAT BUSINESS TEACHERS BELIEVE THE HIGH SCHOOL BUSINESS CURRICULUM SHOULD DO

| Purpose of the Curriculum | % Teachers Choosing |
|---|---|
| a. Give only basic entry skills for office jobs, leaving advanced training to the post high school | 30% |
| b. Give only clerical training, postponing shorthand until post high school study | 0 |
| c. Provide only personal-use business skills and knowledges leaving vocational education to the post high school | 0 |
| d. Prepare students for initial entry and first advancement without needing education beyond high school | 60% |

Source: Opinionnaires to high school teachers.

## C. Employment Needs in the Office Area

The total employment in the office occupations in the six-county area is relatively low, being only 9 percent of the total labor force in the Top-O-Michigan area. Proportions of office workers in the counties are about the same with the highest proportion (11 percent) being in Emmet County. This limited employment for office workers is due generally to the small number of manufacturers and other businesses of large scale. A majority of the office employees work for government agencies.

The clerical-secretarial work force in the area has increased according to census data by only 16 percent from 1940 to 1960. However, the increase was actually closer to 50 percent because prior to 1960, male salespeople were counted as clerical workers in the census. This fact also accounts for the one-third decrease in male clerical workers from 1940 to 1960. On the other hand, the census data reveal that female office employment doubled from 1940 to 1960.

In general, it can be said that the market for office workers in the area is not strong. But, two other factors must be taken into account. First, there is a strong demand for qualified stenographic and secretarial workers in urban areas to which local high school graduates will migrate. Secondly, many female office workers have only a short tenure on the job before leaving the employment market to raise a family. This tenure means more trained workers can be absorbed into a small labor market.

TABLE 10.2

CHANGES IN OFFICE OCCUPATIONS EMPLOYMENT, MALE AND FEMALE, 1940-1960

| County | 1940 | 1960 | Percent Change |
|---|---|---|---|
| 1. Emmet | 596 | 581 | -2.52 |
| 2. Otsego | 136 | 210 | +54.41 |
| 3. Presque Isle | 220 | 265 | +20.45 |
| 4. Charlevoix | 294 | 342 | +16.33 |
| 5. Cheboygan | 334 | 380 | +13.77 |
| 6. Antrim | 161 | 248 | +54.04 |

Source: U. S. Census of Population.

Employers report a severe shortage of qualified stenographic and secretarial workers, particularly those with the ability to take responsibility for the operation of a small to medium-sized office. There apparently are few openings for bookkeepers and accountants in the six-county area although in many small offices the clerical workers perform bookkeeping and record-keeping operations. There is, in other areas of the state to which students might migrate, a shortage of office managers and persons who might be described as accounting technicians — those with two years of collegiate preparation in the applied accounting area. Another training need in the area is in providing owners and managers of small businesses with training in office routines and simple record-keeping procedures.

## D. The Adequacy of Present Curricula for Office Education

At present almost all education for office occupations is conducted by the high schools although a limited curriculum exists at the community college.

### The High School Program

All high schools offer some courses in the area of office education. The typical pattern even in small schools is to offer first year typewriting, second year typewriting, and one year of bookkeeping. Beyond this, two-thirds of the schools offer one year of shorthand. Less than half the schools offer second year shorthand and in these the enrollments are small, generally under ten. The second year typewriting classes are also small, with enrollments generally under 12. Only six schools offer an office practice class that would provide an opportunity to integrate skills into job competency patterns, but many schools use their second year typewriting as a place to teach office machines. Enrollments in bookkeeping are very large considering that few bookkeeping jobs are available in the area.

The schools are serving a personal-use need for typewriting with their first year courses and a large majority of high school graduates have had typewriting. Over half the schools also offer general business, usually in the 9-10 grade thus helping students to acquire consumer skills and understandings.

The facilities, equipment, and instructional materials used for office education courses are in most cases quite adequate to provide vocational competency. For example, typewriting tables are not adjustable in many cases and do not provide useful work space. The typewriters themselves are generally adequate although in a number of cases not well maintained. Housekeeping in the rooms showed need of improvement. There are no shorthand tape laboratories available for building shorthand competencies --this is to be expected in the size schools in the area. If real vocational office education is to occur, office-style laboratories must be added; no school at present — even the latest facility — has an adequate office laboratory equipped with furniture and fixtures arranged to simulate an office. Few schools have any late model office appliances. In general, the facilities are not adequate for vocational office education and in most schools the small enrollments will prohibit development and all-day use of such laboratories.

The interviews found little contact by schools with business such as teachers belonging to local businessmen's groups, talks by businessmen in the classrooms, or cooperative occupational training in the business community. Schools did not generally provide opportunities for youth leadership development through business education clubs.

TABLE 10.3

BUSINESS TEACHERS OPINIONS AS TO HOW WELL THEIR SCHOOLS PREPARE STUDENTS FOR EMPLOYMENT

| Level of Preparation That the School Provides | Type Position Prepared For | | |
|---|---|---|---|
| | Stenographic | Clerical | Bookkeeping |
| a. Minimally qualified for entry jobs | 10% | 20% | 80% |
| b. Well-qualified for entry jobs | 40% | 80% | 20% |
| c. Has background for advancement | 20% | -- | -- |
| d. Not qualified or not preparing in this area | 30% | -- | -- |

Source: Questionnaire to teachers.

Facilities which are new or adequate in space with at least minimally adequate equipment are found at Charlevoix, Petoskey (under construction), Gaylord, Onaway, and Cheboygan Catholic. Space for program development is available at Johannesburg and Boyne City.

In general, the teaching staff are desirous of preparing students for competency in the office, but they fail to have the necessary facilities and deal with limited enrollments with which to offer advanced courses. By and large, the faculties need, and want, upgrading not only to develop better teaching methods, but to develop an understanding and appreciation of the meaning of vocational office education.

### The Adult Program

Schools offer occasionally an adult course in the business field, usually typewriting or bookkeeping. There is no comprehensive program of adult education in the area and practically no courses tailored to the needs of people. However, NCMC in the Fall semester, 1965, will offer an adult course for business managers.

### The Post High School Program

There is no place in the area where students can attain post high school training in office education unless they enroll in the community college.

For example, students who did not obtain office courses in high school cannot obtain the equivalent of high school level vocational instruction without going downstate and enrolling in a tuition private business school. Those who had some courses in high school but who want advanced vocational training, such as advanced shorthand, cannot obtain it in the area. There is no doubt that this keeps many young people at low wage rates because they have no opportunity to upgrade their skills and advance to higher positions. It also poses a real problem for older women who want to return to the labor market and need to relearn and refresh office skills that they once possessed.

## The Community College Curriculum

North Central Michigan College according to the administration has not in its initial development stressed the development of two-year employment bound curricula in the business area. The program at present consists of two curricula; the stenographic-clerical and the general business.

The general business curriculum is primarily accounting-based and contains no broad business education in the fields of finance, marketing, introduction to business, or management. If it is to be transfer-oriented, it is found to require more accounting than senior colleges would wish and insufficient general education, particularly in psychology, sociology, social sciences, and mathematics than four-year colleges desire.

The stenographic-clerical curriculum is actually an employment-bound curriculum if the courses required indicate the purpose of the program. For transfer purposes, the program lacks stress again on general education. Whether a two year curriculum should stress "clerical" competencies is questionable, but there is no doubt that executive secretarial levels are justified in a community college. Analysis of the curriculum reveals that 15 semester hours are devoted to shorthand and transcription, almost a third more than most experts in this area would feel justifiable. The typewriting and office procedures courses appear desirable, but a course sequence in office management and office systems, including units on data processing orientation, would be a desirable addition. Generally less accounting should be required in the stenographic curriculum with additional effort expended on general education. It is recognized that students from many local high schools come to the college with inadequate office skill standards of achievement, but it is not the responsibility of the college to remedy these deficiencies for credit.

The staff appear well-prepared for their positions. Facilities are very inadequate as everyone recognizes they will be until a new building can be constructed. Library holdings appear after a brief check to be up-to-date and extensive considering the small enrollments.

TABLE 10.4

TYPES OF EDUCATION FOR BUSINESS WHICH BUSINESS TEACHERS THINK SHOULD BE OFFERED IN A POST HIGH SCHOOL INSTITUTION SERVING THEIR COUNTY

| | Proportion Believing | | |
|---|---|---|---|
| Type of Business Program | Must Offer | Could Offer | Don't Know or No Response |
| A. Intensive 3-9 months programs for high school graduates or drop-outs giving entry skills | 60% | 30% | 10% |
| B. One-two year programs, non-collegiate, giving technical training for business | 50% | 30% | 20% |
| C. Two-year associate degree curricula in sub-professional business areas | 30% | 60% | 20% |
| D. Part-time adult courses for those already employed | 50% | 50% | -- |
| E. Intensive, full-time retraining program in business areas | 30% | 40% | 30% |

Source: Questionnaire to teachers.

## E. Findings Regarding Office Education

1. Facilities in most schools are very limited with only those at Petoskey (under construction), Gaylord, Charlevoix, Onaway, and Cheboygan Catholic adequate in terms of space and equipment. Even in these schools a vocational office practice laboratory that simulates job situations does not exist.

2. Less than half the schools offered advanced shorthand and less than a third offer "office practice." Most schools concentrate on two years of typewriting, one year of shorthand, and one year of bookkeeping.

3. The large enrollments in bookkeeping are questionable since few bookkeeping jobs exist in the area; it may be that many boys enroll in bookkeeping because small schools offer them a limited choice of elective courses.

3a. No schools offer a cooperative office education program.

4. There are no opportunities at the post high school level except in the community college or downstate private business schools for high school graduates to get advanced training or initial training for office occupations.

5. The highest standards of achievement are found generally in the parochial schools.

6. The community college has in its initial development limited its business curriculum to transfer-oriented programs. However, the general business curriculum is over-weighted with accounting according to the standards of four-year colleges. The stenographic curriculum appears to utilize far too much credit for shorthand and transcription and has inadequate general education.

7. Employers report that high school graduates are not well prepared for office positions requiring advanced skills and judgment.

8. In general, opportunities in office occupations are limited in the area, but opportunities downstate are abundant.

8a. Except in Petoskey, Gaylord and Cheboygan the opportunities for placing cooperative office trainees are quite limited.

9. Data processing is not used much in local business and course preparation in this area is not necessary although all office students should undergo an orientation-type unit.

10. School administrators are very much interested in developing shared-time programs that will assist in acquiring more adequate facilities and teaching staff with more comprehensive preparation. In particular, the parochial schools are desirous of shared-time programs.

11. Business teachers generally believe that their students are well-prepared for entry-level jobs and have the skills for advancement without obtaining further training.

## F. Summary of Conclusions Regarding Office Education

1. For youth in high school, the opportunities for training that develop entry-level competence are very limited; few are adequately trained for stenographic occupations.

2. For adults, a comprehensive program is lacking and such programs should be offered in several centers in the area.

3. For youth who are out of high school, no non-collegiate instruction is available in office education. What is needed is a program that: (a) teaches advanced skills to those who have had beginning in high school or (b) provides a complete training in clerical or stenographic occupations for those without prior training in high school.

4. Two-year programs of collegiate quality are needed to prepare for positions as accounting technicians, executive secretaries, and office managers.

5. Opportunities for office employment in the six-counties are limited and youth must be prepared at a level that will enable them to compete with the high employment standards that exist in urban labor markets.

6. Most schools in the area have such small enrollments and limited resources that they should not attempt vocational office education, but limit themselves to general and personal-use business courses plus pre-vocational courses.

7. A program of in-service upgrading for teachers is most needed, including not only principles and methods of curriculum and instruction, but also occupational experiences in business.

# SECTION III

# A MASTER PLAN FOR IMPROVING AND EXPANDING VOCATIONAL-TECHNICAL EDUCATION IN THE TOP-O-MICHIGAN AREA

This section contains two chapters which form the heart of the study and provide a framework within which local groups can think and work as they plan and carry out action programs to improve vocational-technical education. The first chapter (11) summarizes the major findings and conclusions relating to the over-all study; findings for each area of occupational education, such as agriculture, are to be found in prior chapters wherein each researcher has reported in depth on his field. Local teachers, administrators, and study groups will wish to refer to these and study them in detail as they contain many specific suggestions for developing the program in each field.

The second chapter in this section (12) provides over-all recommendations for improving vocational-technical education in the Top-O-Michigan area, spelling out a plan of action and suggesting ways of implementing the recommendations of this study. Chapter 12 also provides recommendations for each field of occupational education.

# CHAPTER 11

# SUMMARY OF OVER-ALL FINDINGS AND CONCLUSIONS

The research team in analyzing and combining its collective best judgments, reports the following general findings and conclusions.

## A. General Findings

1. According to a survey of the 1963 high school graduates:
    a. about four out of ten had left the county where they had lived at graduation,
    b. almost 50 percent of the graduates had gone on to some type of post high school education with about half of these going on to four-year colleges and universities,
    c. a good many graduates reported having to go out of the Top-O-Michigan area to obtain needed occupational education in trade and technical schools or private business schools,
    d. at a date two years after graduation, almost 7 percent of the graduates were unemployed and looking for work,
    e. about 50 percent of the graduates were earning $100 or more per week, but 60 percent of these high wage earners had moved to a county non-adjacent to the one where they lived at graduation,
    f. over half of the graduates reported that either they wished for more training for their job than they had obtained in high school or wished they had had the opportunity to train for another kind of employment.

2. There is at present little or no vocational education offered in the high schools of the area. Facilities for vocational education are generally inadequate. Exceptions exist in the new facilities recently opened in Gaylord and in the building presently under construction in Petoskey; in both situations facilities will be unmatched by other schools in the area.

3. The faculties in vocational areas are generally not well equipped to provide vocational education and upgrading of the staff will be necessary.

4. There is powerful belief among superintendents and principals of the need to expand and improve vocational-technical education. In general, these administrators recognize the limitations that small school size places on the ability to provide suitable education for employment. They are recognizing the need for shared-time programs and other cooperative actions among school districts and in one intermediate district are on written record as to the necessity of providing area vocational study centers.

5. Parents of 11th graders were found to be very favorable to the need to provide more vocational education opportunities in the area, were realistic about the abilities of their children, and supported the notion of extra taxation to support improved vocational-technical education.

6. School administrators and the intermediate district superintendents were most concerned about vocational education and worked closely with the research team to identify needs.

7. Employers who worked with the survey team cited numerous examples of the needs for improved vocational education both by those who need preparation for employment and those who though employed need upgrading. These business leaders pointed out clearly the need for a more productive manpower pool if economic development of the area is to accelerate. The lack of a post high school program to provide semi-professional education and upgrading of small business management was pointed out clearly.

8. The schools of the area offer a very limited program of occupational education for adults, particularly one which would provide continuing education for professional people, for business owners and managers, and for technicians.

9. The programs of occupational education which exist illustrate the need on the part of educational agencies to plan more closely with community agencies in order that local needs be met. Some recent actions, including the study of nursing education needs, are good examples of studies carried out in close cooperation with community groups.

10. The Dean at North Central Michigan College is very favorable to the idea of providing technical education in his institution and is cognizant of the need for vocational education in the Top-O-Michigan area. The Dean further recognizes the limitations of his institution which in its infancy must choose carefully which educational needs must receive priority for development. Therefore, to this point terminal, employment-bound curricula have not been created.

11. The area of the study is coincident with two intermediate school districts, the superintendents of which are convinced of the need to improve vocational education. Each, however, is cognizant of the geographic spread of the area that works against one centralized site for vocational-technical education.

12. In most of the high schools there is a lack of emphasis upon occupational guidance with insufficient trained counselors to assist students and parents in understanding the modern world of work. A survey of graduates showed that they put little faith in the limited guidance provided by their schools. Likewise, there is no visible source of occupational guidance assistance available to adults. The MESC at the time of the study was initiating an attempt to meet such needs.

13. The community college at Petoskey is located physically to the far western boundary of the Top-O-Michigan area. There is evidence that groups in other parts of the study area are reluctant to view the college as the primary focus of vocational-technical education for all districts.

14. Leadership for vocational-technical education is diverse. At the time of the study, one district (Petoskey) had a vocational director and he was part time. One intermediate school district had appointed a vocational consultant on a full-time basis as of July 1, 1965. One other district (Gaylord) while not having a vocational director has a superintendent who had given much time and leadership energy to vocational education resulting in a new addition for that school. (Note: as of September 1965, when this report was being written, a full-time director of vocational education was reported to have been hired by the Petoskey system.)

15. Economic characteristics:
    a. The region shows slow economic growth and wage rates and taxable income are relatively low (almost a third of the households had an annual disposable less than $3,000).
    b. The tourist and recreation income is rising rapidly contributing much to the regions growth.
    c. Unemployment is above the state average.
    d. State equalized valuation in terms of per pupil to be supported in the area is much below the state average.

16. Employment characteristics:
    a. The area is dominated by a business-professional economy

providing goods and services including professional, health, and recreational. Manufacturing is an important source of employment but does not account for over 20 percent of the labor force.

b. In manufacturing a large proportion of the labor force are women operatives, semi-skilled and paid at low rates. However, construction service and repair businesses provides opportunities for craftsmen and other skilled workers.

c. The numbers of farmers and farm managers have declined by 70 percent since 1940, due to farm consolidation and changed land use, while other unskilled labor employment shows a similar decline.

d. Increases of over 100 percent have appeared in service occupations.

e. The number of female office workers has increased by almost 200 percent since 1940 while the number of craftsmen and foremen have almost doubled.

f. The employment of males actually decreased slightly from 1940-60 while employment of females doubled.

17. Some MDTA training programs have been conducted in the area, principally by the Gaylord system, and contacts have been made for additional such programs as well as apprenticeship programs.

18. The NCMC has sufficient acreage on its new site to accommodate easily facilities for a technical institute building including necessary parking.

19. Present law provides for use of both state and federal vocational education funds to reimburse the costs of vocational-technical instruction as well as costs of building and equipping facilities to be used on an area basis. While such reimbursement can by law be as much as 50 percent, statements of the state vocational education staff indicate that a 25 percent reimbursement factor may be a much more reasonable expectation on which local planning can be based.

20. Public Act 246 (1964) of the Michigan General School Laws provides that school districts may operate vocational-technical programs on an area basis with the Intermediate School District serving both as the taxing unit and the contractual unit with local school districts and/or community colleges. Where area schools are operated to provide high school level vocational training, no tuition can be charged students.

21. Public Act 237 (1964) provides that community colleges may serve as area vocational-technical education units to provide both post high school education for employment and vocational education for those still in high school who need training on an area basis. The act further provides that community colleges in providing such education may expend monies for buildings and program operation both within and outside its district and may levy taxes for the purpose of providing vocational-technical education.

## B. Major Conclusions

Regarding the Present Availability of Vocational-Technical Education:

1. For youth in high school, there is at present a very limited opportunity for education of the variety and scope necessary for employment competence. Most high schools offer little vocational education that has the depth of content, the adequacy of instructional facilities and materials, or the teacher competency required to develop occupational competency required by the modern world of work. By and large, less than 10 percent of high school youth have access to adequate vocational offerings. For example, in agricultural education present programs are limited to production agriculture and are available in only seven schools, in distributive education there are no schools offering programs for the area of retailing, marketing, or merchandising even though the area has a strong service and distributive economy, in office education there are courses offered in almost every school but are generally limited to first year courses in usually inadequate facilities with insufficient laboratory-type offerings, in industrial education there are limited offerings generally in woods and metals and most laboratories are inadequate, in home economics education there are courses in most schools but the emphasis remains on foods and clothing and no schools offer courses for wage earning home economics occupations.

2. For youth who have graduated or dropped out of high school and who are available for full-time vocational preparatory instruction, there is no post high school vocational instruction available that prepare for occupational entry. Considering the lack of high school vocational programs, this gap at the post high school level is serious if youth in the Top-O-Michigan area are to compete successfully in the labor market with those youth fortunate to be educated in urban areas.

   Study shows that a program of two-year collegiate technical and subprofessional education is badly needed since none is presently available. The programs at NCMC are transfer-oriented as the present policies of the board and administration indicate they should be.

3. For adults employed or self-employed but in need of upgrading or retraining, a comprehensive, coordinated program approach to adult, continuing education does not exist even though most districts and NCMC offer some courses. The staff concludes that what is badly needed are offerings tailored to the needs of owners, managers, and supervisors of small business which form the hub of the area's economy. Also needed are programs of adult education to improve the skills of present employees which will make them more productive and able to justify higher compensation because of improved productivity.

Regarding the Need for Vocational-Technical Education:

1. Follow-up studies show that less than 40 percent of the high school graduates go on to four-year programs. Together with the lack of vocational offerings in the high school, this leads to the conclusions that annually at least 1,000 graduates and drop-outs need some level of vocational preparation.

2. Development of a trained manpower pool is essential if the economy of the area is to rise beyond its present slow rate of growth. Further expansion of the area's service industries and the attraction of manufacturing and processing plants will be impeded unless additional vocational-technical education can be developed.

3. More young people would choose to remain in the area if their skills were such as to enable them to raise their standard of living.

Regarding the Improvement of Vocational-Technical Education:

1. Most schools are under 400 enrollment and thus are far too small to provide adequate vocational programs except at an unusually high cost. Therefore, some form of a vocational school is needed that serves students on an area basis. An area school would provide enrollments sufficient to justify a variety of vocational programs of quality at a reasonable cost.

2. Driving times at prudent school bus speeds are so great as to require that area vocational education be provided in several locations in the six-county area rather than in a central facility.

3. The area's sole community college cannot be the vehicle for a total program of vocational technical education because of its location on the west side of the area, its financial base which is limited to one county, and the perception of citizens in other counties who have a more local point of view.

Regarding the Possible Alternatives for Improved Education:

Several courses of action can be concluded as possible remedies for the problem of improving vocational-technical education in the Top-O-Michigan area. Each is outlined here; the recommended alternative is presented in the next chapter.

1. Create a central, six-county area vocational school that offers a complete vocational-technical program. This plan at first is ideal and was suggested by many people; it has both advantages and disadvantages:
    a. The total enrollment base, grades 9-12 would be 4,700, permitting development of a comprehensive program at a least cost factor.
    b. A large center would have visibility and be seen by all as a center of opportunity for vocational-technical education.
    c. Location in the center of the area (near Indian River) would create for share-time high school programs school bus driving times of over an hour and a half each way.
    d. A rural location provides no center for occupational experiences for students and creates problems in acquiring staff in terms of housing, shopping and religious and social organizations.
    e. A center that must be operated under contract with two intermediate school districts presents legal and political problems.

The research team concludes that a centralized facility for so large an area is undesirable.

2. Develop a post high school vocation school and technical institute at North Central Michigan College in Petoskey. This plan would:
    a. have the advantage of a centralized facility to provide a comprehensive program at least cost,
    b. use an established institution as a developmental base,
    c. use a location which is too far removed from a good many people, is seen by many people as not "their" institution, and creates long driving distances,
    d. presents a problem of garnering financial resources from two intermediate school districts,
    e. leaves the high schools with their present inadequate vocational programs and forces students to postpone vocational training until after high school.

The research team concludes that this alternative is not desirable and is more suitable to an urban area downstate.

3. Create one or more area vocational schools in each intermediate school district. These schools would serve high school pupils on a shared-time basis and out-of-school youth and adults on both a full-time and part-time basis.
    a. This plan allows each intermediate district to proceed at its own pace and provides for more local control.
    b. Good facilities now existent (such as those at Gaylord and under construction at Petoskey) can be fully utilized.
    c. Transportation times are reasonable for shared-time high school programs.
    d. Area schools provide a regard for the loyalties of local citizens and their attitudes for support.
    e. Schools located in larger communities provide for closer contact with business and provide employment opportunities for students in cooperative programs.
    f. When several centers are used for area schools, some have enrollments that are minimal for the development of comprehensive programs.

## CHAPTER 12

# RECOMMENDATIONS FOR IMPROVING AND EXPANDING VOCATIONAL-TECHNICAL EDUCATION IN THE TOP-O-MICHIGAN AREA

### A. Over-All Recommendations

After analyzing all pertinent data collected by various staff members, the research team makes the following major recommendations:

1. The two intermediate school districts should cooperatively, but separately, establish by contract with local districts three area vocational schools.[1] These three centers would utilize some facilities which already exist, but some additional facilities need to be constructed. These area vocational schools would serve: (a) youth in high school on a shared-time basis with their home high school, (b) youth who have dropped out of or graduated from high school and who are not employed and available for full-time schooling, (c) and adults who are employed but who need upgrading or retraining.
    a. In the West Intermediate District, one area school would be operated by the Petoskey District out of its new facility. The Petoskey school, which might be designated as the "Emmet-Charlevoix Area Vocational School," would also use some facilities as branches at East Jordan and Charlevoix by subcontracting. The "Emmet-Charlevoix AVS" would provide for the districts of Petoskey, Petoskey St. Francis, Charlevoix, Boyne Falls, Boyne City, East Jordan, Pellston, Alanson, Harbor Springs, Ellsworth, and Central Lake.[2] These districts would give the E-CAVS an enrollment base of 2,600 in grades 9-12. Anticipated enrollments would be 150-175 full-time students in the post high school curricula and 600-700 in the shared-time high school curricula. (See chapters on each occupational field for details as to curricula to be implemented.)

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[1] The survey staff recommends that local citizens organize a committee to determine if the two intermediate districts should be merged thus creating a vocational-technical authority for the entire area.

[2] The staff recommends that Central Lake consider joining the area vocational school that may be organized at Mancelona in the Traverse intermediate district.

b. In the East Intermediate District the long north-south geographic spread dictates the recommendation of establishing the two area vocational schools, one at the new facility in Gaylord and the other in a new facility to be constructed in Cheboygan.

The Gaylord Area Vocational School would serve the districts of Gaylord, Gaylord St. Marys, Wolverine, Johannesburg, and Vanderbilt. (Note: Although Grayling and Frederick are outside the area included in this study, the staff recognizes their need and urges consideration of inviting these districts to participate in the Gaylord AVS.) The Gaylord AVS would have an enrollment base of 700 in grades 9-12, a small enrollment but workable. Anticipated enrollments would be 90-100 in post high school curricula and 200-225 in the shared-time high school programs.

The Cheboygan Area Vocational School would provide for the districts of Cheboygan, Cheboygan Catholic, Mackinaw City, Inland Lakes, and Onaway. (Note: Although Rogers City was outside the study area, that district would be within easy driving distance of the Cheboygan AVS.) The Cheboygan AVS would have an enrollment base of 1,400 in grades 9-12 and anticipated enrollments would be 100-150 in the post high school curricula and 400-450 in the shared-time high school vocational programs.

c. Each area school would be operated by contract with the local district board accepting a contract with the Intermediate School District. (1) The local board would operate the AVS as a separate school with its own administration (director or principal) even though high school facilities are used. This separateness of administration is necessary because the AVS is a post high school institution that serves high school students also. (2) The AVS administration should establish for each occupational area an advisory committee representing all districts cooperating in the AVS. (3) The intermediate districts would assign their vocational consultant to the AVS as a part-time member of the administration. (4) Sources of funding for the AVS would be operating millage and bond revenues approved by citizens of the intermediate district, state and federal vocational appropriations, and funds from specialized laws such as the MDTA, the Economic Opportunity Act, and the Elementary-Secondary Education Act. By law tuition can not be charged pupils in an area vocational school.

d. Each of the three AVS would provide a set of basic vocational curricula. In the case of the Emmet-Charlevoix AVS, two such "sets" might be offered, one at the Petoskey facility and the other at the East Jordan facility, to reduce travel time for shared-time vocational students. In addition, each AVS might "farm

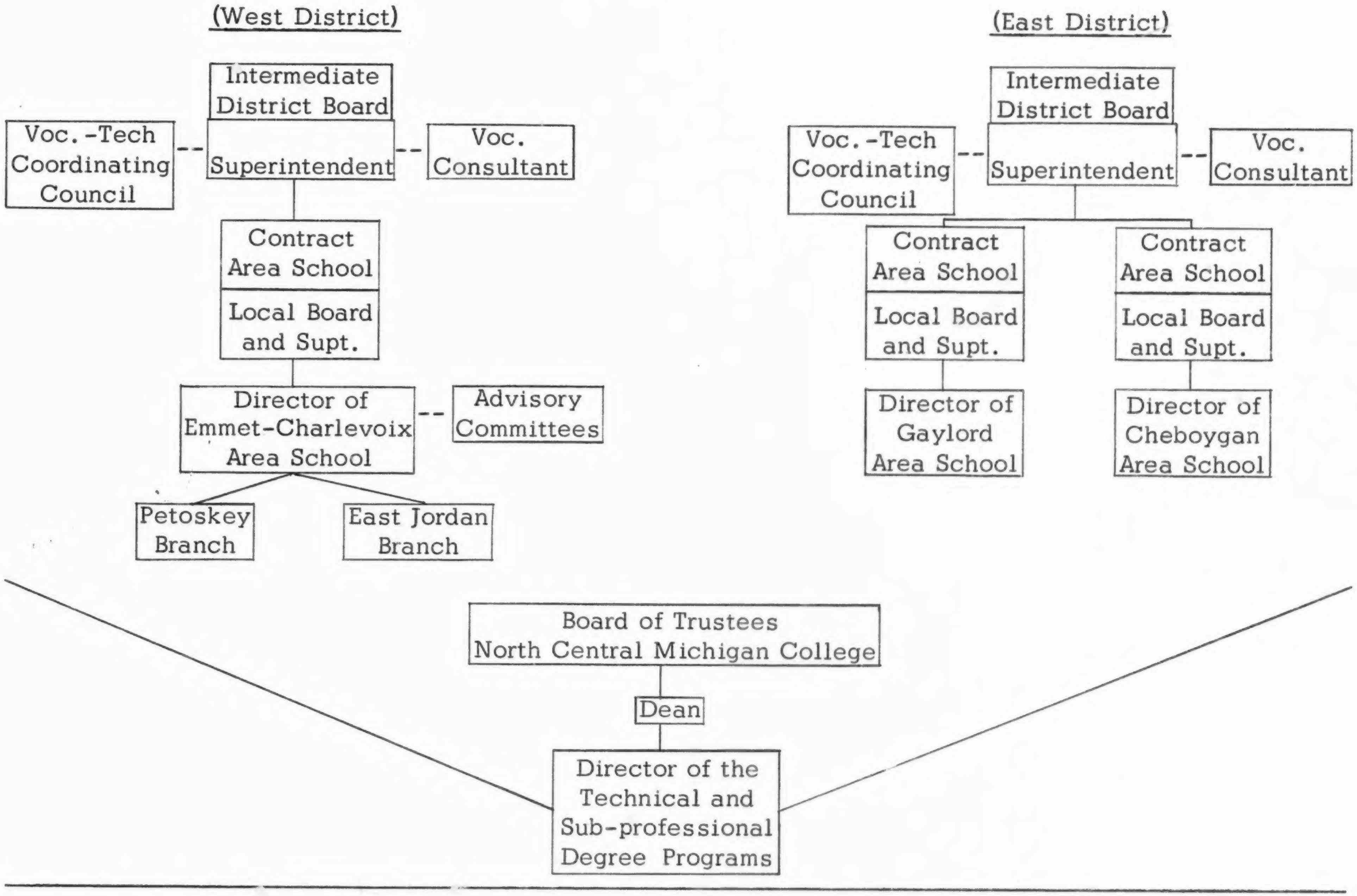
(West District)
Intermediate District Board
Voc.-Tech Coordinating Council
Superintendent
Voc. Consultant
Contract Area School
Local Board and Supt.
Director of Emmet-Charlevoix Area School
Advisory Committees
Petoskey Branch
East Jordan Branch
(East District)
Intermediate District Board
Voc.-Tech Coordinating Council
Superintendent
Voc. Consultant
Contract Area School
Local Board and Supt.
Director of Gaylord Area School
Contract Area School
Local Board and Supt.
Director of Cheboygan Area School
Board of Trustees North Central Michigan College
Dean
Director of the Technical and Sub-professional Degree Programs

FIGURE 12.1

RECOMMENDED ORGANIZATION PLAN FOR VOCATIONAL-TECHNICAL EDUCATION IN THE TOP-O-MICHIGAN AREA out" specialized curricula to another school which already possesses a superior laboratory for that speciality. Some adult courses would also be "farmed out" to local district schools to meet specialized local needs.

e. Each intermediate district should form an over-arching Coordinating Council for Vocational-Technical Education which would advise the director of the AVS. The purpose of the Council would be: to review training needs in the area, review curriculum offerings, pull together resources and citizen support, and publicize the efforts in vocational-technical education. Membership on each council would be appointed and consist of three or four district school administrators; four to six representatives from business, industry, agriculture, and labor. The vocational consultant from the intermediate district, the AVS director, and a representative from NCMC would serve in ex-officio roles.

   The Councils from each intermediate district should meet together quarterly to coordinate the vocational-technical efforts of the three AVS and review curricula for gaps or duplication.

f. In order for high school facilities to function as a post high school facility for youth and adults who are out of school and wish to be treated as adults, several physical facilities are needed: a student lounge and study center separate from the high school group, a technical-vocational library, and an occupational counseling center. Likewise, separate administrative and faculty offices are desirable as is a separate entrance.

2. North Central Michigan College should develop degree-level technical and sub-professional curricula through formation of a Division of Technical Education and serve the needs of the entire Top-O-Michigan area.

   a. The needed curricula should be collegiate in nature, supported by sound general education, and be approximately two years in length. Care should be taken to ensure that these curricula are neither compromised by a transfer-orientation nor duplicates of the vocational level programs offered by the area vocational school post high programs.

   b. The technical and sub-professional curricula have employment as their purpose; these programs would develop under the leadership of a Director of Technical Education who reports to the Dean of the College.

   c. Facilities for the technical programs should be located in one building to assist in integration of the various curricula and build interrelationships among the technical staff. (Note: The staff cautions against the suggestion of some people of sharing facilities with a high school or area vocational school. Experience in other states shows that sharing with high school students creates an unfavorable image among students and citizens and often leads to a deterioration in the quality of instruction.)

3. An alternative recommendation for Technical Education. The researchers do not normally make alternative recommendations, but feel obliged to in this case. NCMC is at present quite small and its financial base is limited to but Emmet County. If the NCMC Board of Trustees should decide that if its resources and the need to develop further the general academic program will combine to prevent immediate development of a comprehensive program of technical education and if tuition for out-of-district students from the Top-O-Michigan is to be high, then the two intermediate districts should consider banding together to create technical curricula in the area vocational schools. Some technical curricula of general interest could be operated at each AVS while some specialized curricula might be offered in only one school since older technical students can commute longer distances or even board near the school.

4. The intermediate districts should create an Occupational Counseling Program for Adults, operating such programs through the AVS. This program should be developed in cooperation with the MESC and local industry personnel officers. Until such times as case loads become heavy, adult counselors could be available on a schedule of "X" days and evenings per month in each AVS.

5. With the establishment of area vocational schools, it is recommended that high school districts of under 300 enrollment concentrate on sound general education that undergirds vocational education and on prevocational education, such as industrial arts, thus freeing resources used presently to support limited vocational curricula. Schools of this size cannot expect to operate vocational programs of substance and depth and should utilize the shared-time program with the area vocational school.

6. The East Intermediate District should create a position of vocational consultant and fill the position at the earliest opportunity.

7. Intermediate district superintendents should undertake in concert with local districts a follow-up study of graduates every two years.

8. It is recommended strongly that citizen leaders from the Top-O-Michigan area form immediately what might be known as the "Top-O-Michigan Foundation for Vocational-Technical Education." The purpose

of this foundation would be: to foster economic development through improved manpower training, to pull together resources from business, industry and agriculture to improve vocational-technical education, to undertake activities to raise the occupational aspirations of youth and adults, solicit gifts and grants to support scholarships for worthy students and provide technical libraries and special equipment for area vocational schools and technical programs, and to bestow recognition awards upon outstanding students and faculty.

The Foundation should have a Board of Trustees chosen from the ranks of outstanding local business leaders and of citizens who believe in the worth and need of vocational competence.

9. In order to insure the systematic development of the proposed AVS it is further recommended that the school administrators begin immediately to identify problems associated with shared-time programs such as transportation, class schedules, scheduled extra-curricular activities and others, and to devise possible alternatives as solutions.

## B. Recommendations Regarding Education for Agricultural Occupations

Educational programs designed to help youth plan and prepare for careers in agricultural occupations should be conducted by public schools at both the high school and post high school levels. Also, educational programs designed to improve occupational competence of adults, or persons already employed, in or interested in agricultural occupations, should be available through the public schools.

### High School Level Programs of Instruction

The instructional programs should reflect the newer and broadened objectives of vocational agriculture, should recognize the varying levels of agricultural occupations, and should reflect adequate utilization of local conditions for effective instruction. Some specific recommendations are:

1. Students interested in agricultural occupations (farming and/or other agricultural occupations) should have an opportunity to enroll in agricultural courses, regardless of home background or experience.

2. A major purpose for vocational agriculture courses at the 9th and 10th grade levels should be to provide educational experiences which assist students to make intelligent career plans in view of their own abilities and opportunities in agriculture.

3. Sufficient flexibility should be provided in the schedule of classes for students to pursue programs meeting their needs without major barriers between occupationally oriented courses and other courses.

4. The 10th grade class in agriculture should be a laboratory-type course with emphasis on development of understandings of basic principles for production of plant and animals. Demonstrations, group projects, and individual projects at the school, within the community, and at the homes of students should be utilized.

5. If other courses are available in which students may learn principles of applied plant and animal science, principles of industrial materials and processes, and principles of community leadership, then the specialized courses for students interested in agricultural careers should be started at the 11th and 12th grade levels.

6. The specialized courses at the 11th and 12th grade levels should be developed around at least four major occupational areas:
   a. Horticulture occupations to include production and marketing of fruit, landscaping, greenhouse and nursery work, and floriculture.
   b. Agricultural machinery and mechanics to include major emphasis on farm power, machinery and equipment appropriate to the farming and forestry of the area.
   c. Farm supply, sales and service occupations with major emphasis on entry level positions in sales and service and on the development of understandings of the functions and organization of agricultural businesses.
   d. Farming and farm management occupations with emphasis on application of theory and practices on a home farm or other farm, either for full-time or part-time farming.

7. The course(s) for farm supply, sales and service occupations should be planned in cooperation with the business department of the school; the agricultural machinery and mechanics courses should be planned in cooperation with the industrial department of the school.

8. A program of supervised experience in both farm and non-farm agricultural occupations should be provided to help students make career plans and to develop competencies needed for employment.

9. An advisory committee should be organized to assist in the development of instructional programs and policies.

## Post High School Level Programs

Instruction should be available for persons preparing for initial employment, in agricultural occupations, for up-grading of persons already employed, and for those seeking retraining because of changing employment conditions. Short, intensive courses of from six to ten hours in length, two to four week courses, as well as longer courses should be developed to meet the needs of the local area and regional and state needs. Some specific recommendations are:

1. Programs of instruction for full-time and part-time students should be developed in the areas of
    a. farm machinery operation, repair, and service,
    b. landscaping, nursery work and tree farming operations,
    c. production agriculture: dairy, beef, farm woodlot management, forestry, farm management, and others.
2. Programs of instruction designed to enhance the knowledge and understandings of waitresses, gas station attendants and other serving the visitors in the area of the natural resources, recreational sites, and other attractions in the area should be developed in cooperation with the business department in the school and local business people.
3. There should be planned coordination, communication and cooperation among the institutions and agencies offering educational programs in agriculture (including forestry and conservation), such as Cooperative Extension Service, Soil Conservation Service, State Department of Conservation and others.

## Sites for Instruction

It is recommended that the number of schools offering instruction for agricultural occupations be reduced from seven to four and that the programs in the four schools serve students from all the other high schools in the study area. These four centers should offer both high school and post high school programs. Specific recommendations are as follows:

1. Education for agricultural occupations, at the 11th and 12th grade levels and post high school levels should be offered at four locations: Petoskey and East Jordan in the West District and Cheboygan and Gaylord in the East District.
2. Specialized courses should be developed and offered at the 11th and 12th grade levels on a shared-time basis for students from the surrounding areas as shown in Tables 12.1 and 12.2.

## TABLE 12.1

## PROPOSED INSTRUCTION CENTERS FOR AGRICULTURAL OCCUPATIONS, EMMET-CHARLEVOIX INTERMEDIATE SCHOOL DISTRICT

| Centers | Participating Schools | Miles to Center | Projected Ag. Enrollment Grades 11-12[a] |
|---|---|---|---|
| Petoskey | Harbor Springs | 9 | 3-6 |
| | Littlefield | 10 | 1-2 |
| | Pellston | 18 | 3-6 |
| | Petoskey | -- | 7-14 |
| | Petoskey St. Francis | 1 | 4-8 |
| | | Sub-Total | 18-36 |
| East Jordan[b] | Boyne City | 11 | 5-10 |
| | Boyne Falls | 12 | 0-1 |
| | Charlevoix | 14 | 5-10 |
| | Central Lake | 13 | 1-2 |
| | Ellsworth | 5 | 1-2 |
| | East Jordan | -- | 4-8 |
| | | Sub-Total | 16-33 |
| | | TOTAL | 44-69 |

[a] Based on the assumption that the equivalent of 5-10 percent of male students in those grades might enroll. Enrollment should be open to both boys and girls.

[b] The program at East Jordan would be considered a branch operation from Petoskey. This is considered to be a temporary, or short-range, operation with all of the agricultural instruction centered in Petoskey when facilities and transportation make such a change feasible. Special classes might then be conducted at East Jordan, Pellston or some other site, but the instructors would travel instead of the students.

TABLE 12.2

PROPOSED INSTRUCTION CENTERS FOR AGRICULTURAL OCCUPATIONS, OTSEGO-CHEBOYGAN-PRESQUE ISLE INTERMEDIATE SCHOOL DISTRICT

| Centers | Participating Schools | Miles to Center | Projected Ag. Enrollment Grades 11-12[a] |
|---|---|---|---|
| Cheboygan | Mackinaw City | 16 | 2-4 |
| | Cheboygan | -- | 8-16 |
| | Cheboygan Catholic | 1 | 3-6 |
| | Inland Lakes | 16 | 2-4 |
| | Onaway | 29 | 5-10 |
| | | Sub-Total | 20-40 |
| Gaylord | Gaylord | -- | 4-8 |
| | Gaylord St. Mary | 1 | 2-4 |
| | Johannesburg | 13 | 1-2 |
| | Vanderbilt | 9 | 1-2 |
| | Wolverine | 20 | 1-2 |
| | (Grayling)[b] | 27 | 8-16 |
| | | Sub-Total | 17-34 |
| | | TOTAL | 37-74 |

[a] Based on the assumption that the equivalent of 5-10 percent of the male students in those grades might enroll. Enrollment should be open to both boys and girls.

[b] Not included in the official study area, but consideration should be given to having the students served by Gaylord for their vocational education needs.

3. Pre-vocational (or some prefer the term, basic vocational) courses in agriculture might be offered at the 9th and 10th grade levels for students within the system or for those nearby. It is not recommended that 9th and 10th grade students from outlying districts be transported on a shared-time basis for such instruction.

### Facilities and Equipment

1. Land laboratories should be readily accessible for instruction purposes. Minimum size, for use with landscape horticulture, is 1-1.5 acres.

2. Facilities on the land laboratory should include a multi-purpose building appropriate for housing poultry or livestock as part of feeding demonstrations to help students learn some basic principles of animal growth and nutrition as well as some management practices.

3. A classroom of approximately 800 square feet, shop of approximately 2,400 square feet, and a greenhouse of not less than 10 feet of bench space (15-20 feet preferred) per student should be available. (Note: Specific details regarding recommended facilities and equipment are available from the Agricultural Service, Michigan Department of Education, Lansing, Michigan.) Costs for construction, site and equipment vary considerably but are estimated to average about $16.50 per square foot.

4. New facilities would be needed at Petoskey and Cheboygan, and additional facilities required at East Jordan. Although no greenhouse is available at Gaylord, the present facilities would be adequate for the immediate future.

5. It is recommended that facilities for the agricultural program at Petoskey be provided at the site of the new high school and made an integral part of the vocational facilities. The present facilities will not be adequate or appropriate when the new high school is opened.

6. Cheboygan should provide new classroom, shop and greenhouse facilities as an integral part of the proposed new construction.

7. East Jordan should provide facilities for instruction in agricultural mechanics and improve the greenhouse.

## Staff

In general, it is highly desirable to have two or more teachers of agriculture available for instruction in each of the centers. This will allow for some specialization on the part of the teachers. Each of the intermediate school districts should plan to provide for three teachers of agriculture as follows:

West District
  Petoskey — two teachers
  East Jordan — one teacher

East District
  Cheboygan — two teachers
  Gaylord — one teacher.

The staffing should take into consideration the need for providing instruction in horticultural areas, livestock, forestry, conservation, and agricultural mechanics. The staff should be utilized throughout each intermediate school district to provide the instruction needed at the most appropriate site, rather than assuming all instruction will be located at the four named centers.

### Agricultural Technician Programs

It is recommended that no technician program be developed in the immediate future in the proposed technical institute at the North Central Michigan College, Petoskey. Instead, students should be encouraged to enroll in the program to be developed at Northwest Michigan College, Traverse City or in the on-going programs at Michigan State University in such areas as: Commercial Floriculture, Nursery and Landscape Management, Elevator and Farm Supply, Farm Equipment Service and Sales, and Soil Technician.

## C. Recommendations for Distributive Education in the Six-County Area

A comprehensive distributive education program should play an important role in secondary, post-secondary, and adult education in the counties of the area study. Economic factors controlling the future of the six counties will demand better and more competently trained distributive workers in the next decade. The secondary school districts have an obligation to prepare young men and women in the total field of distribution. Studies bear out the fact that a significant percent of high school graduates enter the labor force as distributive workers. An obligation then exists to train adequately these young people for the world of work.

It is the opinion of this writer, as supported by facts, data, and observations, that a plan for education for distribution can be developed that will provide for such an educational experience throughout the entire six-county study area.

### The Secondary School Program

Four educational centers for distributive study should be developed. The city of Charlevoix, because of its location and its retail, wholesale, and service area, is a natural center for distributive study. The high school at Charlevoix is not operating at capacity and could easily provide the space for a cooperative distributive education program enrolling approximately 30 students and for a minimum of two sections of preparatory distributive classes enrolling approximately 50 students. Students should be drawn from the school districts of Boyne City, Central Lake, Boyne Falls, East Jordan, and Ellsworth.

A fully qualified teacher-coordinator of distributive education employed by this intermediate school district could serve these six communities. Several cooperative work stations could be developed in each community, thus enabling students to receive on-the-job training in their home communities while acquiring the related subject matter material in the combined school situation. The writer has surveyed several distributive businesses in each of these communities and it is apparent that there is interest and desire on the part of businessmen to cooperate in a cooperative occupational experience program.

There should also be offered at Charlevoix High School a non-cooperative pre-employment class in distributive education. Students from Ellsworth and Central Lake could, if desired, be transported to Charlevoix for the eleventh grade preparatory class. One section of this course enrolling approximately 20 students should also be offered at Boyne City High School; East Jordan and Boyne Falls could also send students to this center for the non-cooperative class. Boyne City High School, at this time, possesses adequate room space for such a shared-time venture.

One teacher-coordinator of distributive education could easily travel between the two schools, teaching three morning classes and in the afternoon supervising cooperative distributive students who would be placed in the six surrounding communities.

A second center for the study of distribution on the secondary level should be located in the city of Petoskey. This center is possible, though, only if the new Petoskey High School provides adequate space for a distributive education laboratory. Present plans do not call for space devoted to this area of study. The communities of Harbor Springs Alanson, and Pellston should participate on a shared-time basis with the city of Petoskey in a program of education for distribution. Petoskey has a retail center that can sufficiently and entirely support a cooperative distributive program. It is conceivable, though, that a few cooperative placements could be found in the outlying communities.

Because of the number of high school age students in the grouping (about 1,400 including Petoskey's St. Francis), a sizable cooperative program could be developed among the several schools. At least two sections in preparatory distributive education, enrolling as many as 60 students, could be offered at Petoskey High School, together with a class of a minimum of 35 cooperative distributive students.

This size program would also call for the services of a full-time distributive education teacher-coordinator, adequately prepared in the field of distribution. Due to the large number of service industries also found in this area, high school programs could also be developed in conjunction with the home economics departments to provide for training in the food sales and service area, as well as in hotel and institutional service and management.

A third center of distributive study should be located in the community of of Gaylord. This community has a most healthy distributive climate and more than adequate facilities for a distributive education laboratory are available at Gaylord High School. The towns of Vanderbilt, Wolverine, Johannesburg, and Indian River are within an area of accessibility to the Gaylord area and should share in a cooperative distributive education program enrolling approximately 35 students and a class in pre-employment education for distribution comprised of at least two sections having a total of 50 students enrolled. Gaylord's St. Mary's High School should also participate in both of these shared-time programs.

This center could also support a full-time teacher-coordinator who, because of the distance involved between communities, may require more travel time, thereby being able to teach a maximum of three classes related to the field of distribution.

The fourth center for study in the field of distribution should be located at Cheboygan because of the large number of distributive businesses within this community. This center proposes the most problems in terms of adequate space at the present time. A distributive education laboratory should be provided for in the plans of the proposed high school located in Cheboygan. Until the new school is completed, space should be provided for within existing facilities for such a laboratory. The communities of Mackinaw City and Onaway should participate with Cheboygan in a cooperative distributive education program which would have an enrollment of approximately 35 students. The high school at Onaway, which has adequate space for distributive facilities, should teach a pre-employment class enrolling approximately 30 students in distributive education and should consider establishing its own cooperative program in distribution in the future. A pre-employment class, enrolling approximately 35 students, should also be taught at Cheboygan High School, drawing students the short distance from Mackinaw City.

Again there are more than sufficient responsibilities to demand a full-time teacher-coordinator in distributive education who would teach one cooperative class and at least two preparatory classes in distribution.

## The Post-High School Program

The post-high school program in distributive education should be centralized at North Central Michigan College. The program should at this point develop toward a one-year vocational type program that would make available to a great backlog of former high school students a vocational/technical education that will enable them to prepare adequately for the world of work. The one-year program would have as its primary goal the teaching of technical subject material that would be of immediate benefit to the student upon graduation. At the present time such a program would enroll approximately 30 students.

A second stage of development should be that of the establishment of a two-year sub-professional program in distribution. This program would have at its root the training of mid-management personnel for the total field of distribution. At this point, consideration should be given to establishing a cooperative program that would place students in responsible supervisory positions in the distributive businesses of the six-county area. This type of program could involve 20 students at the present time.

It is the opinion of the writer that a two-year college transfer program in distribution should not be undertaken in the near future. The facilities of the junior college at Traverse City could fill the needs of the students who desire such a program. The transfer program at Traverse City is already well established with competent personnel and facilities.

## The Adult Program

The adult program in distributive education should be administered in two ways. Where county or intermediate school districts have delegated personnel as vocational directors, these educators should administer an adult program in distributive education. Where no such organization exists, the local distributive education coordinators must assume the administrative responsibilities of such a program.

It is most important that the efforts in adult distributive education made by the six counties be coordinated and that all vocational directors and distributive education coordinators be held responsible for a total adult program in distribution. This is of prime importance as an urgent need exists in the counties studied for adult courses to upgrade and retrain adults in the communities. A coordinated effort by the six counties to provide an adult program could be strengthened by the offering of an adult certificate program in distributive education. Courses should be offered at all high schools in the six-county area which show interest and desire to sponsor such programs. The North Central Michigan College should also sponsor such no-credit adult courses in distribution.

## D. Recommended Programs in Home Economics

1. The local high schools should continue their programs for the vocation of homemaking where there is sufficient enrollment to employ a fully qualified homemaking teacher on a full-time basis. Full time could include teaching homemaking in the junior high school.

    a. Programs for the vocation of homemaking should be strengthened in the areas of family living, home management, child care and development, and consumer buying.

    b. Homemaking in the junior high school should not be required in both seventh and eighth grades nor for longer than 18 weeks in one grade. The homemaking offerings in junior high school should be broad in scope, exploratory in nature, and include both boys and girls.

    c. Homemaking should be available to boys in the high school program especially at the senior level in home and family living classes for both boys and girls.

    d. Local high school homemaking programs should stress those attributes that make a person more employable since many of these qualities are a part of teaching-learning in home making. These qualities include personal appearance, attitudes toward work, ability to follow instructions, dependability, and the basic tool skills of reading, writing, and arithmetic.

2. Programs for occupational training related to home economics should be centered in the three area schools at Cheboygan, Petoskey, and Gaylord. Personnel in the areas will need to make additional study of occupational needs of students and employment opportunities to determine the occupational programs to provide in the area schools. Th area schools should provide programs for full-time students as well as part-time programs for adults in the occupations of determined need.

3. North Central Michigan College in Petoskey should begin the two-year nursing program as planned. Study should be made of other medical technologies with the thought of developing one or two technical programs that would utilize facilities and collegiate courses, such as the physical and biological sciences, that will be required in the nursing program.

## E. Recommendations and Conclusions Regarding Industrial Education

Based on the data and findings presented in this study, it is recommended in the area of industrial education:

## General

1. That the programs of industrial education, including industrial arts, trade and industrial, and technical education be greatly expanded so that a wider range of programs and specific course offerings will be available at the high school and post-high school levels to all students and adults in the six-county area who need or desire such education.

2. That a greater commitment to support the programs of industrial education must be made by school boards and administrators than was generally evidenced in many of the school districts. This includes financial support for needed equipment, supplies, and instructional materials as well as administrative leadership and support to develop new courses and a total curriculum of industrial education.

## Industrial Arts Programs

3. That each individual school district provide at least one year of industrial arts instruction for each boy during the junior high school years of 7th and 8th or 7th, 8th and 9th grades. Emphasis should be placed on providing exploratory experiences in as many areas of instruction as possible. The facility best suited for this type of instruction would be a comprehensive general shop.

4. That each individual high school expand or develop industrial arts programs that provide a wider range of experiences than are currently available at any single school. Experiences (not necessarily courses) should be provided in:

    a. Drafting - mechanical drawing, product design, machine drawing, technical illustration and architectural drawing.

    b. Electricity - basic electricity, house wiring, electronics, radio and T.V. servicing.

    c. Graphic Arts - letterpress, intaglio or gravure printing, screening, binding and photography.

    d. Metal work - machining, foundry, forging and heat treating and sheet and art metals.

    e. Power Mechanics - internal combustion engine, hydraulics, pneumatics, jet and turbine engines, atomic and other power systems, automotive repair.

    f. Woodworking - cabinet making, wood technology and wood processing, pattern making, carpentry and building construction.

On an elective basis as many of these experiences listed above as possible should be available to each student to meet general education, pre-vocational and at times, vocational needs. In some cases, these areas would be included in separate courses but in other situations would be included as a unit or part of a more general course. A suggested sequence of courses or experiences would be:

9th grade - drafting, graphic arts, and woodworking
10th grade - metalworking
11th grade - power mechanics and electricity-electronics
12th grade - elective specialization in area of choice with opportunity for some specific occupational training.

As near as possible, complete programs should be provided at Charlevoix, Cheboygan, Gaylord and Petoskey High Schools. Where other high schools have only a single laboratory or shop facility, it may not be possible in all cases to provide the complete range of experiences suggested. However, even with a single laboratory facility, a broader program of industrial arts could be offered through the development of a broad general shop program than is currently available. Shared-time programs and arrangements should be worked out with other school districts that would also provide for more comprehensive programs of industrial arts.[1]

## Trade and Industrial Programs

5. That three area vocational centers be established where programs of trade and industrial education could be developed along with broad experience industrial arts programs. In these centers trade and industrial education programs would provide pre-employment vocational training in specialized areas at the 12th and possibly the 11th grade levels through shared time arrangements between school districts, therefore serving more effectively a broader geographical area than can small schools in individual school districts.

   In addition to high school level programs it is also recommended that these centers serve as post high school study centers providing industrial vocational training programs for adults through an extensive evening school program as well as day-school programs. These centers would provide training programs of short and long duration and at all levels up to but excluding technician training.

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[1] A more detailed discussion and examples of shared time programs is given in recommendation number 5 regarding the trade and industrial programs.

In general, it is recommended that high school and post-high school vocational programs in the area of industrial education be concentrated in the following three centers. However, other schools may also be used where appropriate due to interest, staff and facilities available to develop certain courses and programs. The recommended centers are:

a. Cheboygan Center - (Pending expansion and construction of a new high school.)

  (1) Cooperating districts - Mackinaw City, Inland Lakes and Onaway.

  (2) Current programs - industrial arts only, drafting, general woodworking, general metalworking.

  (3) Vocational programs to be developed: 1) drafting, all areas; 2) metals - machine operators, metal fabricator, machinist, sheet metalworkers; 3) electricity - electronics, radio and T.V. repairmen; 4) building trades - carpentry, plumbing, and heating; 5) power mechanics - auto mechanics, outboard and small engine repair; 6) graphic arts, general; 7) general programs - gas station attendant, sweeper, janitor.

  (4) Special features - Onaway, which is developing a new metals program with some power mechanics and electricity, might provide vocational instruction in some metals areas. All other schools should provide industrial arts instruction only but on an expanded basis than currently offered.

b. Gaylord Center - (New high school with existing facilities.)

  (1) Cooperating schools: Johannesburg, Vanderbilt and Wolverine should provide industrial arts instruction only.

  (2) Current programs - industrial arts only, general shop, woodworking, power mechanics (voc. 65-66), metals (voc. 1965-66), drafting.

  (3) Vocational programs to be developed: 1) drafting - residential building; 2) power mechanics - auto mechanics; 3) metals - machinist and machine operators; 4) building trades - carpentry, masonry, plumbing and heating; 5) electricity - electrician, radio and T.V. repairmen; 6) special programs - low level training programs such as gas station attendant, car washer, sweeper, tire changer, etc.

(4) Special features - good existing facilities with three large labs in the process of being equipped, a drafting room and two related instruction classrooms.

c. Petoskey Area Center - this center would differ from the other two that have been described because trade and industrial programs would not be confined to a single school but would be distributed among a number of schools because of existing facilities and staff competencies.

(1) Cooperating schools: Alanson, Boyne City, Boyne Falls, Charlevoix, Central Lake, East Jordan, Ellsworth, Harbor Springs, Pellston, and Petoskey. All of these schools currently provide only industrial arts instruction.

(2) Vocational programs to be developed and schools where programs should be located:

Major sub-center #1: Petoskey (upon completion of new school). 1) Metals - machinist, metal fabricator, machine operator, sheet metal worker; 2) electricity - electronics, T.V. and communication equipment repair; 3) drafting (general mechanical drawing only, more specific program should be located at Charlevoix); 4) power mechanics - marine and small engine repair; 5) graphic arts - printer.

Major sub-center #2: East Jordan (providing facilities can be developed, perhaps utilizing the uncompleted community building)[1] or building a new building. 1) Metals - foundry, could be operated as a cooperative educational program with local ironworks, metal machining; 2) power mechanics - auto mechanics, body and fender repair, gas station attendant; 3) building trades - all building trades.

Charlevoix: 1) metals - machinist, tool and die maker; 2) drafting - tool and die design, technical illustration, architectural drafting (the current drafting room should only be used for drafting and be equipped with new industrial type furniture and equipment).

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[1] For more detail information on a plan for utilization of this building, refer to: Proposal for an Area Vocational School for Antrim, Charlevoix and Emmet Counties. East Jordan, Michigan.

Not all of the programs and suggested courses presented and recommended for the centers of Cheboygan, Gaylord and Petoskey area can be developed and implemented during any one or even several school years. Furthermore, not all the possibilities for programs of industrial education can be included in this report. However, it is strongly recommended that imaginative and creative thinking be employed by all, when developing programs that effectively meet the occupational needs of youth and carry out the implications and purposes of the National Vocation Act of 1963.[1]

6. The area center administrators, directors and/or consultants, local instructional staff members and lay persons representing industry plan cooperatively the specific instructional programs and solicit the assistance of the Michigan Department of Education, Vocational Division, in helping to develop new and experimental programs for this rather low-density population area.

7. That guidance counselors become completely aware of employment needs and occupational training opportunities available in the local community, state and nation and devote as much time proportionately to counseling and guidance activities for non-college bound youth as is spent on the college bound students.

8. That immediate consideration be given to the establishment of part-time cooperative education programs that provide high school students enrolled in trade and industrial courses the opportunity to acquire supervised and coordinated work experience in their trade. General work experience and diversified occupation programs should also be developed at the three area centers.

9. That advisory committees be established for each of the occupational areas at each of the area centers. These committees would help to identify the need for and appropriateness of various courses and programs, the content and experiences to be included and to explore means of developing good relations and facilitating cooperative action between the area center and industry and employers in the area.

### Technical Education Programs

10. That all technical education programs in industrial education technician

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[1] For example: Purpose no. (3) to provide "Vocational Education For Persons Who Have Academic, Socio-Economic, Or Other Handicaps That Prevent Them From Succeeding in the Regular Vocational Education Program." Public Law 88-210, December 18, 1963, page 3.

training for the six county area be developed and offered under the auspices of the North Central Michigan College in Petoskey. In general, these programs would place major emphasis on the preparation of technicians in two-year terminal programs and not through programs designed for transfer to four-year institutions.

It is recommended that the following technician training programs be developed in the area of industrial education:

a. Drafting and Design Technology - facilities currently available at the College and some courses currently offered (Graphics 107) would be appropriate if emphasis was shifted. Other courses would have to be developed.

b. Electronics Technology - no facilities currently available other than physics or science labs. Math and physics courses currently offered are basic to this program. Additional specialized electronics courses would have to be developed.

c. Graphics Technology - no facilities currently, but a printing laboratory is planned in building #9. Since current program of Paper Technology is related to field of graphics, consideration should be given to broadening the approach because on paper it resembles a chemical technology program more than a paper technology program.

d. Industrial Production Technology - no facilities currently, very few current courses are appropriate. Graphics 107 and Engineering 217 with supporting math and science are some possibilities. Additional courses needed in manufacturing processes, materials, metallurgy, quality control and technical math.

Since facilities are not available at the NCMC for all of the technical programs described, it might be possible to use some of the facilities to be built at the new Petoskey Senior High School during initial stages of program development. However, it is strongly recommended that the College proceed to develop their own facilities for the technician training program. The type of equipment needed for technician training differs considerably from that required for secondary trade and industrial programs. Furthermore, it is questionable whether the high school facilities will even be adequate for the industrial arts program and for high school and adult level programs in trade and industrial education for the area center programs.

## F. Recommendations for Office Education

1. High schools under 200 enrollment should not attempt to maintain at high cost and with inadequate facilities curricula that lead to employment in office occupations. These schools should instead concentrate on general business education for personal-use skills and personal economic education recognizing that such courses will also have prevocational values. In such schools the course offerings should be limited to beginning typewriting, 9th-10th grade general business, and a senior business course emphasizing both economics for everyday life, consumer skills, and an understanding of the American business system.

    a. Schools between 200-350 enrollment might add beginning shorthand if a teacher can be found and sufficient enrollments are possible.

    b. All advanced courses in typewriting, shorthand, office practice, and the beginning course in bookkeeping should be accomplished for smaller high schools in area vocational schools either on a shared-time basis during the senior year or on a post high school basis.

2. Comprehensive vocational programs in office education should be established in area vocational schools at Cheboygan, Gaylord, and Petoskey. The Petoskey area school might wish to use facilities at Charlevoix and Boyne City to serve shared-time as well as post high school students in Charlevoix and Antrim County districts.

    a. Programs for shared-time students should be offered in both the clerical and stenographic areas, using 2-3 hour blocks of time in a simulated office laboratory. This block approach is more appropriate than individual courses to take care of appropriate than individual courses to take care of individual needs and varying standards of achievement with students coming from many schools.

    b. Post high school programs for students who have graduated or dropped out of school should be developed in:

        (1) Stenographic occupations - a nine-month full-time program for those without prior training.

        (2) Clerical occupations - a four-six months full-time program for those without prior training.

        (3) Advanced training - short-term full-time programs for clerical or stenographic levels for students who have

had beginning courses in high school or those workers who need retraining.

   (4) Bookkeeping occupations - a nine-month full-time program should be developed if intensive study of the local labor market warrants training personnel in this area.

  c. All post high school full-time programs should include a period of supervised occupational experience.

3. North Central Michigan College should establish a dual purpose program in the business area:

   a. A Transfer Curriculum - this curriculum should serve all students who expect to transfer to a four-year business curriculum. Half the curriculum should be devoted to general education including: Communications, Humanities, Social Science, Psychology, Sociology, and Mathematics. A core of business courses should include Principles of Accounting, Introduction to Business, and Principles of Economics. Specialized courses in business should be limited since four-year colleges are becoming increasingly reluctant to accept such courses for transfer.

   b. Employment-Bound Curricula - these curricula should cover three occupational areas:

      (1) Accounting technicians

      (2) Executive secretarial

      (3) Marketing and distribution.

      Care should be taken to ensure that these curricula do not duplicate the vocational programs to be operated in the area vocational schools.

4. The intermediate district superintendents should implement as soon as possible an in-service program of teacher improvement in the business area and arrange for state department assistance for improvement of programs in their district.

5. Business teachers should organize a Top-O-Michigan Business Education Association to exchange ideas, develop contacts with businessmen, and arrange for consultants and other professional improvement meetings.

6. Businessmen in the area need to take a more active interest in the business curriculum of the schools and make their needs known to teachers and administrators.

# APPENDICES

# APPENDIX A

## PERCENT CHANGE IN LABOR FORCE BY OCCUPATION

| Occupation in Which Employed | Antrim | | | | Charlevoix | | | | Cheboygan | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1940 | 1960 | % of 1960 Total Emp. | % Change of Emp. | 1940 | 1960 | % of 1960 Total Emp. | % Change of Emp. | 1940 | 1960 | % of 1960 Total Emp. | % Change of Emp. |
| Employed - Male & Female | 3,085 | 3,198 | 100.00 | 36.63 | 3,707 | 4,320 | 100.00 | 16.54 | 3,596 | 3,979 | 100.00 | 10.65 |
| Professional, technical workers | 195 | 273 | 8.54 | 40.00 | 228 | 403 | 9.33 | 76.75 | 207 | 373 | 9.37 | 80.19 |
| Farmers and farm managers | 1,033 | 298 | 9.32 | -71.15 | 1,052 | 236 | 5.46 | -77.57 | 1,037 | 213 | 5.35 | -79.46 |
| Managers, officials, and proprietors, except farm | 232 | 265 | 8.29 | 14.22 | 328 | 403 | 9.33 | 22.87 | 435 | 552 | 13.87 | 26.90 |
| Clerical and kindred workers | 161 | 248 | 7.75 | 54.04 | 294 | 342 | 7.92 | 16.33 | 334 | 380 | 9.55 | 13.77 |
| Sales workers | * | 164 | 5.13 | - | * | 299 | 6.92 | - | * | 245 | 6.16 | - |
| Craftsmen, foremen, and kindred workers | 173 | 432 | 13.51 | 149.71 | 298 | 636 | 14.72 | 113.42 | 325 | 528 | 13.27 | 62.46 |
| Operatives and kindred workers | 192 | 825 | 25.80 | 329.69 | 416 | 966 | 22.36 | 132.21 | 436 | 610 | 15.33 | 39.91 |
| Private household workers | 105 | 100 | 3.13 | -4.76 | 132 | 151 | 3.50 | 14.39 | 96 | 137 | 3.44 | 42.71 |
| Service workers, except private household | 103 | 232 | 7.25 | 125.24 | 220 | 452 | 10.46 | 105.45 | 196 | 439 | 11.03 | 123.98 |
| Farm laborers, unpaid family workers | 244 | 132 | 4.13 | -45.90 | 218 | 89 | 2.06 | -59.17 | 179 | 73 | 1.83 | -59.22 |
| Farm laborers, except unpaid and farm foremen | 254 | * | - | - | 168 | * | - | - | 182 | * | - | - |
| Laborers, except farm & mine | 372 | 165 | 5.16 | -55.65 | 314 | 228 | 5.28 | 27.39 | 240 | 217 | 5.45 | -9.58 |
| Occupation not reported | 21 | 64 | 2.00 | 204.76 | 39 | 115 | 2.66 | 194.87 | 29 | 212 | 5.33 | 631.03 |

*Included in above figure.

APPENDIX A--Continued

| Occupation in Which Employed | Emmet 1940 | Emmet 1960 | Emmet % of 1960 Total Emp. | Emmet % Change of Emp. | Otsego 1940 | Otsego 1960 | Otsego % of 1960 Total Emp. | Otsego % Change of Emp. | Presque Isle 1940 | Presque Isle 1960 | Presque Isle % of 1960 Total Emp. | Presque Isle % Change of Emp. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Employed - Male & Female | 4,673 | 5,174 | 100.00 | 10.72 | 1,601 | 2,420 | 100.00 | 51.16 | 3,691 | 4,151 | 100.00 | 12.46 |
| Professional, technical workers | 375 | 550 | 10.63 | 46.67 | 106 | 169 | 6.98 | 59.43 | 203 | 336 | 8.09 | 65.52 |
| Farmers and farm managers | 861 | 228 | 4.41 | -73.52 | 464 | 150 | 6.20 | -67.67 | 1,015 | 408 | 9.83 | -59.80 |
| Managers, officials, and proprietors, except farm | 503 | 632 | 12.21 | 25.65 | 161 | 325 | 13.43 | 101.86 | 243 | 426 | 10.26 | 75.31 |
| Clerical and kindred workers | 596 | 581 | 11.23 | -2.52 | 136 | 210 | 8.68 | 54.41 | 220 | 265 | 6.38 | 20.45 |
| Sales workers | * | 411 | 7.94 | - | * | 119 | 4.55 | - | * | 228 | 5.49 | - |
| Craftsmen, foremen, and kindred workers | 476 | 666 | 12.87 | 39.92 | 72 | 307 | 12.69 | 326.39 | 322 | 609 | 14.67 | 89.13 |
| Operatives and kindred workers | 528 | 681 | 13.16 | 28.98 | 123 | 555 | 22.93 | 351.22 | 562 | 966 | 23.27 | 71.89 |
| Private household workers | 214 | 254 | 4.91 | 18.69 | 40 | 49 | 2.02 | 22.5 | 127 | 45 | 1.08 | 64.57 |
| Service workers, except private household | 331 | 635 | 12.27 | 91.84 | 112 | 356 | 14.71 | 217.86 | 150 | 394 | 9.49 | 162.67 |
| Farm laborers, unpaid family workers | 206 | 78 | 1.51 | 62.14 | 199 | 20 | .83 | -89.95 | 448 | 209 | 5.04 | -53.35 |
| Farm laborers, except unpaid and farm foremen | 194 | * | - | - | 48 | * | - | - | 143 | * | - | - |
| Laborers, except farm & mine | 333 | 326 | 6.30 | -2.10 | 108 | 95 | 3.93 | -12.04 | 235 | 199 | 4.79 | -15.32 |
| Occupation not reported | 56 | 132 | 2.55 | 135.71 | 32 | 65 | 2.69 | 103.13 | 23 | 66 | 1.59 | 186.96 |

*Included in above figure.

## APPENDIX B. 1

### INDUSTRY GROUP OF EMPLOYED PERSONS (Antrim County)

| | 1940 | | 1950 | | 1960 | |
|---|---|---|---|---|---|---|
| | Male | Female | Male | Female | Male | Female |
| Employed | 2,699 | 386 | 2,669 | 590 | 2,295 | 903 |
| Agriculture | 1,475 | 58 | 1,169 | 100 | 453 | 31 |
| Forestry and Fisheries | 4 | ... | 4 | ... | ... | n |
| Mining | 5 | ... | 5 | ... | ... | m |
| Construction | 99 | ... | 280 | 5 | 244 | 8 |
| Manufacturing | 472 | 9 | 341 | 43 | 776 | 192 |
| Durable | | | | | | |
| Furniture | 4 | ... | 111 | 4 | 104g | x |
| Primary metal industries | 129 | 2 | 5 | ... | 33g | x |
| Fabricated metal ind. (Incl. not spec. metal) | ... | ... | 39 | 6 | 339g | x |
| Machinery, except electrical | 3 | ... | 19 | ... | 234 | 12 |
| Electrical machinery equip., and supplies | x | x | 1 | ... | 5g | x |
| Motor vehicles and motor vehicle equip. | 9 | ... | 74 | 13 | 27g | x |
| Transportation equip., except motor vehicle | ... | ... | 6 | ... | 12 | 8 |
| Other durable goods | 203b | ... | 18 | 6 | 27 | 122 |
| Non-Durable | | | | | | |
| Food and kindred products | 22 | 1 | 50 | 7 | 93 | 38 |
| Textile mill products | 3 | ... | ... | ... | ... | ... |
| Apparel and other fabricated textile prod. | ... | ... | 1 | ... | ... | ... |
| Printing, publishing, and allied industries | 11 | 5 | 12 | 7 | 27g | x |
| Chemicals and allied products | 81 | ... | 1 | ... | 4 | x |
| Other non-durable goods | 1 | ... | ... | ... | m | m |
| Not specified manufacturing industries | 5 | 1 | 4 | ... | 5 | 12 |
| Transportation, Communication, and Utilities | | | | | | |
| Railroads and railway express service | 31 | ... | 31 | ... | 17g | 16 |
| Trucking service and warehousing | 24 | ... | 36 | 3 | 29g | x |
| Other transportation | 21 | ... | 20 | 2 | 22g | x |
| Telecommunications | 4 | 10 | 4 | 20 | 33g | x |
| Utilities and sanitary services | 22 | 1 | 26 | 3 | 12g | x |
| Wholesale Trade | 39 | ... | 45 | 2 | 31 | 4 |
| Retail Trade | | | | | | |
| Food and dairy prod. stores and milk retail | 45 | 10 | 64 | 38 | 83 | 29 |
| Eating and drinking places | 32 | 12 | 37 | 56 | 27 | 56 |
| Other retail trade | 152c | 24c | 186 | 62 | 153 | 74 |
| Finance, Insurance, and Real Estate | 14 | 4 | 32 | 10 | 39 | 33 |
| Business Services | 29e | ... | 6 | 1 | 5g | 4 |
| Repair Services | 9 | ... | 67 | 2 | 51g | n |
| Personal, Entertainment and Recreation Service | | | | | | |
| Private households | 6 | 104 | 7 | 50 | 130g | x |
| Hotels and lodging places | 27 | 19 | 43 | 16 | x | x |
| Other personal services | 24 | 11 | 31 | 23 | 119 | 145 |
| Entertainment and recreation services | 16 | ... | 16 | 12 | 4 | ... |
| Medical and Other Health Services | 92j | 98j | 15 | 12 | 16h | 62h |
| Educational Services | | | | | | |
| Government | 45k | 16k | 61 | 75 | 84 | 117 |
| Private | x | x | ... | 6 | 4 | 14 |
| Other Professional and Related Services | x | x | 33 | 13 | 86i | 49 |
| Public Administration | x | x | 77 | 29 | 65 | 49 |
| Industry Not Reported | 21 | 10 | 33 | 7 | 26 | 20 |

b - Logging, sawmills and pianning mills
c - Includes motor vehicles and access. retail, and filling stations
e - Includes automobile storage and rental
g - Includes both male and female
h - Hospitals only
i - Includes welfare, religious, and non-profit membership organizations
j - Includes all other professional services
k - All government
m - Included in below
n - Included in above
x - Not indicated by source

## APPENDIX B. 2

## INDUSTRY GROUP OF EMPLOYED PERSONS (Charlevoix County)

| | 1940 | | 1950 | | 1960 | |
|---|---|---|---|---|---|---|
| | Male | Female | Male | Female | Male | Female |
| Employed | 3,092 | 615 | 3,176 | 791 | 2,928 | 1,392 |
| Agriculture | 1,374 | 73 | 879 | 41 | 308 | 40 |
| Forestry and Fisheries | 68 | 1 | 42 | 1 | 39g | n |
| Mining | 3 | ... | 5 | ... | ... | m |
| Construction | 193 | ... | 294 | 4 | 311 | 9 |
| Manufacturing | | | 691 | 44 | 889 | 277 |
| Durable | | | | | | |
| Furniture and lumber and wood products | 4 | 3 | 128 | 3 | 168g | x |
| Primary metal industries | 44 | 1 | 69 | 3 | 138g | x |
| Fabricated metal ind. (Incl. not spec. metal) | ... | ... | 8 | 2 | 239g | x |
| Machinery, except electrical | 6 | 1 | 11 | ... | 27 | 9 |
| Electrical machinery equip., and supplies | x | x | ... | ... | 128g | x |
| Motor vehicles and motor vehicle equip. | 12 | ... | 24 | ... | 77g | x |
| Transportation equip., except motor vehicle | 14 | ... | 37 | ... | 28 | 54 |
| Other durable goods | 68b | ... | 67 | ... | 75 | 131 |
| Non-Durable | | | | | | |
| Food and kindred products | 58 | 32 | 12 | ... | 59 | 9 |
| Textile mill products | 1 | ... | 1 | ... | ... | ... |
| Apparel and other fabricated textile prod. | ... | 1 | ... | ... | ... | 4 |
| Printing, publishing, and allied industries | 19 | 4 | 19 | 10 | 49g | x |
| Chemicals and allied products | 2 | ... | ... | ... | ... | x |
| Other non-durable goods | 193 | ... | 316 | 26 | m | m |
| Not specified manufacturing industries | 13 | ... | ... | ... | 140 | 16 |
| Transportation, Communication, and Utilities | | | | | 29 | |
| Railroads and railway express service | 32 | 1 | 31 | ... | 14g | x |
| Trucking service and warehousing | 21 | ... | 28 | 2 | 17g | x |
| Other transportation | 68 | 2 | 48 | 2 | 47g | x |
| Telecommunications | 9 | 21 | 17 | 43 | 32g | x |
| Utilities and sanitary services | 32 | 3 | 84 | 13 | 82g | x |
| Wholesale Trade | 42 | 5 | 48 | 5 | 69 | 8 |
| Retail Trade | | | | | | |
| Food and dairy prod. stores and milk retail | 92 | 30 | 115 | 54 | 103 | 73 |
| Eating and drinking places | 32 | 42 | 49 | 63 | 44 | 69 |
| Other retail trade | 214 | 34 | 244 | 76 | 285 | 121 |
| Finance, Insurance, and Real Estate | 36 | 6 | 48 | 26 | 64 | 45 |
| Business Services | 18 | ... | 11 | 1 | 24g | 15 |
| Repair Services | 41 | 1 | 99 | 4 | 80g | n |
| Personal, Entertainment and Recreation Service | | | | | | |
| Private households | 9 | 139 | 34 | 98 | 189g | x |
| Hotels and lodging places | 15 | 30 | 51 | 25 | x | x |
| Other personal services | 41 | 23 | 39 | 26 | 251g | 285 |
| Entertainment and recreation services | 38 | 3 | 33 | 7 | 62 | 24 |
| Medical and Other Health Services | 104j | 118j | 23 | 76 | 7h | 140h |
| Educational Services | | | | | | |
| Government | 141k | 28k | 67 | 99 | 90 | 86 |
| Private | x | x | 2 | 8 | ... | 21 |
| Other Professional and Related Services | x | x | 45 | 16 | 84i | 72 |
| Public Administration | x | x | 121 | 40 | 140 | 24 |
| Industry Not Reported | 35 | 14 | 28 | 17 | 26 | 54 |

b - Logging, sawmills and planning mills
c - Includes motor vehicles and access. retail, and filling stations
e - Includes automobile storage and rental
g - Includes both male and female
h - Hospitals only
i - Includes welfare, religious, and non-profit membership organizations
j - Includes all other professional services
k - All government
m - Included in below
n - Included in above
x - Not indicated by source

## APPENDIX B. 3

## INDUSTRY GROUP OF EMPLOYED PERSONS (Cheboygan County)

| | 1940 | | 1950 | | 1960 | |
|---|---|---|---|---|---|---|
| | Male | Female | Male | Female | Male | Female |
| Employed | 2,973 | 623 | 2,957 | 805 | 2,871 | 1,108 |
| Agriculture | 1,341 | 68 | 818 | 28 | 284 | 19 |
| Forestry and Fisheries | 49 | 1 | 27 | 1 | 24g | n |
| Mining | 3 | 1 | 6 | ... | 8 | m |
| Construction | 230 | ... | 349 | 4 | 448 | 21 |
| Manufacturing | | | 335 | 98 | 593 | 70 |
| Durable | | | | | | |
| Furniture and lumber and wood products | 15 | 19 | 83 | 3 | 132g | x |
| Primary metal industries | 7 | 1 | 6 | ... | 52g | x |
| Fabricated metal ind. (Incl. not spec. metal) | ... | ... | 7 | 1 | 52g | x |
| Machinery, except electrical | 14 | ... | 67 | 35 | 163 | 18 |
| Electrical machinery equip., and supplies | x | x | ... | ... | 8g | x |
| Motor vehicles and motor vehicle equip. | 9 | ... | 51 | 6 | 23g | x |
| Transportation equip., except motor vehicle | 8 | ... | 15 | 1 | 3 | 5 |
| Other durable goods | 27 | 1 | 23 | 15 | 15 | 32 |
| Non-Durable | | | | | | |
| Food and kindred products | 16 | ... | 28 | 1 | 37 | 4 |
| Textile mill products | 1 | ... | 2 | ... | ... | ... |
| Apparel and other fabricated textile prod. | 4 | 92 | 6 | 30 | 4 | 4 |
| Printing, publishing, and allied industries | 17 | 4 | 26 | 4 | 59g | x |
| Chemicals and allied products | 1 | ... | ... | ... | ... | x |
| Other non-durable goods | 1 | 1 | 18 | 2 | m | m |
| Not Specified Manufacturing Industries | 35 | 1 | 3 | ... | 50 | 7 |
| Transportation, Communication, and Utilities | | | | | | 18 |
| Railroads and railway express service | 54 | ... | 50 | 2 | 46g | x |
| Trucking service and warehousing | 18 | ... | 23 | ... | 39g | x |
| Other transportation | 78 | 3 | 109 | 6 | 52g | x |
| Telecommunications | 5 | 10 | 6 | 27 | 44g | x |
| Utilities and sanitary services | 21 | 3 | 66 | 2 | 48g | x |
| Wholesale Trade | 38 | 5 | 67 | 8 | 114 | ... |
| Retail Trade | | | | | | |
| Food and dairy prod. stores and milk retail | 102 | 25 | 103 | 50 | 93 | 54 |
| Eating and drinking places | 53 | 40 | 65 | 84 | 107 | 148 |
| Other retail trade | 221 | 48 | 268 | 78 | 311 | 133 |
| Finance, Insurance, and Real Estate | 35 | 9 | 40 | 20 | 95 | 55 |
| Business Services | 19 | 1 | 10 | 1 | 13 | 9 |
| Repair Services | 51 | 2 | 72 | ... | 56g | n |
| Personal, Entertainment and Recreation Service | | | | | | |
| Private households | 8 | 101 | 14 | 53 | 149g | x |
| Hotels and lodging places | 51 | 31 | 144 | 65 | x | x |
| Other personal services | 33 | 24 | 39 | 33 | 255g | 225 |
| Entertainment and recreation services | 28 | 1 | 25 | 7 | 27 | 13 |
| Medical and Other Health Services | 106j | 95j | 21 | 68 | 3h | 88h |
| Educational Services | | | | | | |
| Government | 98k | 26k | 44 | 85 | 40 | 115 |
| Private | x | x | 5 | 21 | 10 | 21 |
| Other Professional and Related Services | x | x | 50 | 14 | 50i | 51 |
| Public Administration | x | x | 135 | 28 | 141 | 32 |
| Industry Not Reported | 33 | 11 | 57 | 22 | 76 | 36 |

b - Logging, sawmills and planning mills
c - Includes motor vehicles and access. retail, and filling stations
e - Includes automobile storage and rental
g - Includes both male and female
h - Hospitals only
i - Includes welfare, religious, and non-profit membership organizations
j - Includes all other professional services
k - All government
m - Included in below
n - Included in above
x - Not indicated by source

## APPENDIX B.4

## INDUSTRY GROUP OF EMPLOYED PERSONS (Emmet County)

| | 1940 | | 1950 | | 1960 | |
|---|---|---|---|---|---|---|
| | Male | Female | Male | Female | Male | Female |
| Employed | 3,664 | 1,009 | 3,925 | 1,462 | 3,372 | 1,802 |
| Agriculture | 1,225 | 48 | 806 | 38 | 333 | 20 |
| Forestry and Fisheries | 23 | 1 | 23 | 1 | 13g | n |
| Mining | 3 | ... | 3 | ... | ... | m |
| Construction | 291 | 3 | 415 | 5 | 456 | 12 |
| Manufacturing | | | 844 | 80 | 648 | 33 |
| Durable | | | | | | |
| Furniture, and lumber and wood products | 55 | 4 | 148 | 10 | 115g | x |
| Primary metal industries | 4 | ... | 11 | ... | 14g | x |
| Fabricated metal ind. (Incl. not spec. metal) | ... | ... | 24 | 7 | 52g | x |
| Machinery, except electrical | 6 | 1 | 16 | 3 | 18 | 4 |
| Electrical machinery equip., and supplies | x | x | 5 | 2 | 12g | x |
| Motor vehicles and motor vehicle equip. | 4 | ... | 76 | 10 | 46g | x |
| Transportation equip., except motor vehicle | 7 | ... | 13 | 3 | ... | 4 |
| Other durable goods | 355b | 9 | 266 | 12 | 228 | 8 |
| Non-Durable | | | | | | |
| Food and kindred products | 60 | 4 | 81 | 7 | 91 | 4 |
| Textile mill products | ... | ... | 22 | 8 | ... | ... |
| Apparel and other fabricated textile prod. | 2 | 2 | 3 | ... | ... | ... |
| Printing, publishing, and allied industries | 44 | 8 | 45 | 11 | 46g | x |
| Chemicals and allied products | 1 | ... | 16 | ... | ... | x |
| Other non-durable goods | 92 | 2 | 101 | 2 | m | m |
| Not specified manufacturing industries | 3 | 1 | 17 | 5 | 30 | 13 |
| Transportation, Communication, and Utilities | | | | | | 98 |
| Railroads and railway express service | 63 | ... | 61 | ... | 41g | x |
| Trucking service and warehousing | 47 | 4 | 37 | 2 | 53g | x |
| Other transportation | 35 | 1 | 68 | 4 | 41g | x |
| Telecommunications | 25 | 30 | 56 | 54 | 132g | x |
| Utilities and sanitary services | 57 | 2 | 51 | 4 | 69g | x |
| Wholesale Trade | 102 | 3 | 140 | 16 | 170 | 29 |
| Retail Trade | | | | | | |
| Food and dairy prod. stores and milk retail | 117 | 20 | 120 | 49 | 138 | 93 |
| Eating and drinking places | 66 | 50 | 69 | 111 | 96 | 162 |
| Other retail trade | 254 | 113 | 446 | 244 | 525 | 332 |
| Finance, Insurance, and Real Estate | 60 | 39 | 64 | 46 | 82 | 42 |
| Business Services | 27 | 4 | 15 | 3 | 25g | 31 |
| Repair Services | 72 | 4 | 123 | 6 | 36g | n |
| Personal, Entertainment and Recreation Service | | | | | | |
| Private households | 25 | 218 | 28 | 164 | 289g | x |
| Hotels and lodging places | 35 | 55 | 80 | 77 | x | x |
| Other personal services | 61 | 60 | 67 | 68 | 218g | 369 |
| Entertainment and recreation services | 21 | 7 | 41 | 13 | 22 | 7 |
| Medical and Other Health Services | 156j | 278j | 54 | 213 | 51h | 298h |
| Educational Services | | | | | | |
| Government | 110k | 22k | 64 | 130 | 103 | 118 |
| Private | x | x | 7 | 33 | 14 | 51 |
| Other Professional and Related Services | x | x | 56 | 22 | 227i | 111 |
| Public Administration | x | x | 142 | 47 | 127 | 56 |
| Industry Not Reported | 56 | 16 | 45 | 32 | 55 | 55 |

b - Logging, sawmills and planning mills
c - Includes motor vehicles and access. retail, and filling stations
e - Includes automobile storage and rental
g - Includes both male and female
h - Hospitals only
i - Includes welfare, religious, and non-profit membership organizations
j - Includes all other professional services
k - All government
m - Included in below
n - Included in above
x - Not indicated by source

## APPENDIX B.5

## INDUSTRY GROUP OF EMPLOYED PERSONS (Otsego County)

| | 1940 | | 1950 | | 1960 | |
|---|---|---|---|---|---|---|
| | Male | Female | Male | Female | Male | Female |
| Employed | 1,334 | 267 | 1,662 | 456 | 1,678 | 742 |
| Agriculture | 683 | 31 | 483 | 35 | 187 | 16 |
| Forestry and Fisheries | 5 | ... | 4 | ... | 4g | n |
| Mining | 3 | ... | 3 | ... | 5g | m |
| Construction | 83 | ... | 145 | 1 | 180 | 4 |
| Manufacturing | | | 311 | 59 | 446 | 133 |
| Durable | | | | | | |
| Furniture, and lumber and wood products | ... | ... | 53 | ... | 98g | x |
| Primary metal industries | 3 | ... | 8 | ... | 78g | x |
| Fabricated metal ind. (Incl. not spec. metal) | ... | ... | 2 | ... | 4g | x |
| Machinery, except electrical | 1 | ... | 11 | ... | 12 | 8 |
| Electrical machinery equip., and supplies | x | x | ... | ... | ... | x |
| Motor vehicles and motor vehicle equip. | 9 | ... | 186 | 54 | 294g | x |
| Transportation equip., except motor vehicle | 1 | ... | 1 | ... | 4 | 117 |
| Other durable goods | 37b | ... | 7 | 1 | 13 | ... |
| Non-Durable | | | | | | |
| Food and kindred products | 9 | 1 | 26 | 2 | 42 | ... |
| Textile mill products | ... | 1 | 1 | ... | ... | ... |
| Apparel and other fabricated textile prod. | ... | ... | ... | ... | ... | ... |
| Printing, publishing, and allied industries | 7 | 1 | 9 | 2 | 8g | x |
| Chemicals and allied products | 1 | ... | 4 | ... | 10g | x |
| Other non-durable goods | ... | ... | 2 | ... | m | m |
| Not specified manufacturing industries | 1 | ... | 1 | ... | 6 | 8 |
| Transportation, Communication, and Utilities | | | | | | 16 |
| Railroads and railway express service | 18 | 1 | 13 | 1 | 20g | x |
| Trucking service and warehousing | 9 | ... | 28 | ... | 8g | x |
| Other transportation | 16 | ... | 11 | ... | 5g | x |
| Telecommunications | 3 | 4 | 4 | 8 | 16g | x |
| Utilities and sanitary services | 6 | ... | 12 | 1 | 26g | x |
| Wholesale Trade | 35 | 1 | 40 | 1 | 50 | 3 |
| Retail Trade | | | | | | |
| Food and dairy prod. stores and milk retail | 46 | 7 | 46 | 16 | 37 | 21 |
| Eating and drinking places | 16 | 17 | 39 | 53 | 29 | 88 |
| Other retail trade | 116 | 28 | 169 | 45 | 207 | 44 |
| Finance, Insurance, and Real Estate | 11 | 7 | 27 | 13 | 31 | 28 |
| Business Services | 8 | ... | 8 | 1 | 5 | ... |
| Repair Services | 24 | 3 | 32 | 2 | 31g | n |
| Personal, Entertainment and Recreation Service | | | | | | |
| Private households | 8 | 41 | 4 | 23 | 49g | x |
| Hotels and lodging places | 11 | 11 | 36 | 21 | x | x |
| Other personal services | 15 | 12 | 22 | 21 | 223g | 149 |
| Entertainment and recreation services | 17 | 6 | 27 | 4 | 15 | ... |
| Medical and Other Health Services | 75j | 77j | 43 | 57 | 29h | 69h |
| Educational Services | | | | | | |
| Government | 32h | 7k | 25 | 50 | 44 | 51 |
| Private | x | x | ... | 11 | ... | 12 |
| Other Professional and Related Services | x | x | 23 | 6 | 50i | 51 |
| Public Administration | x | x | 75 | 24 | 123 | 33 |
| Industry Not Reported | 25 | 11 | 32 | 3 | 23 | 24 |

b - Logging, sawmills and planning mills
c - Includes motor vehicles and access. retail, and filling stations
e - Includes automobile storage and rental
g - Includes both male and female
h - Hospitals only
i - Includes welfare, religious, and non-profit membership organizations
j - Includes all other professional services
k - All government
m - Included in below
n - Included in above
x - Not indicated by source

## APPENDIX B. 6

## INDUSTRY GROUP OF EMPLOYED PERSONS (Presque Isle County)

| | 1940 | | 1950 | | 1960 | |
|---|---|---|---|---|---|---|
| | Male | Female | Male | Female | Male | Female |
| Employed | 3,092 | 615 | 3,176 | 791 | 2,928 | 1,392 |
| Agriculture | 1,374 | 73 | 879 | 41 | 308 | 40 |
| Forestry and Fisheries | 68 | 1 | 42 | 1 | 39g | n |
| Mining | 3 | ... | 5 | ... | ... | m |
| Construction | 193 | ... | 294 | 4 | 311 | 9 |
| Manufacturing | | | 691 | 44 | 889 | 277 |
| Durable | | | | | | |
| Furniture, and lumber and wood products | 4 | 3 | 128 | 3 | 168g | x |
| Primary metal industries | 44 | 1 | 69 | 3 | 138g | x |
| Fabricated metal ind. (Incl. not spec. metal) | ... | ... | 8 | 2 | 239g | x |
| Machinery, except electrical | 6 | 1 | 11 | ... | 27 | 9 |
| Electrical machinery equip., and supplies | x | x | ... | ... | 128g | x |
| Motor vehicles and motor vehicle equip. | 12 | ... | 24 | ... | 77g | x |
| Transportation equip., except motor vehicle | 14 | ... | 37 | ... | 28 | 54 |
| Other durable goods | 68b | ... | 67 | ... | 75 | 131 |
| Non-Durable | | | | | | |
| Food and kindred products | 58 | 32 | 12 | ... | 59 | 9 |
| Textile mill products | 1 | ... | 1 | ... | ... | ... |
| Apparel and other fabricated textile prod. | ... | 1 | ... | ... | ... | 4 |
| Printing, publishing, and allied industries | 19 | 4 | 19 | 10 | 49g | x |
| Chemicals and allied products | 2 | ... | ... | ... | ... | x |
| Other non-durable goods | 193 | ... | 316 | 26 | m | m |
| Not specified manufacturing industries | 13 | ... | ... | ... | 140 | 16 |
| Transportation, Communication, and Utilities | | | | | 29 | |
| Railroads and railway express service | 32 | 1 | 31 | ... | 14g | x |
| Trucking service and warehousing | 21 | ... | 28 | 2 | 17g | x |
| Other transportation | 68 | 2 | 48 | 2 | 47g | x |
| Telecommunications | 9 | 21 | 17 | 43 | 32g | x |
| Utilities and sanitary services | 32 | 3 | 84 | 13 | 82g | x |
| Wholesale Trade | 42 | 5 | 48 | 5 | 69 | 8 |
| Retail Trade | | | | | | |
| Food and dairy prod. stores and milk retail | 92 | 30 | 115 | 54 | 103 | 73 |
| Eating and drinking places | 32 | 42 | 49 | 63 | 44 | 69 |
| Other retail trade | 214 | 34 | 244 | 76 | 285 | 121 |
| Finance, Insurance, and Real Estate | 36 | 6 | 48 | 26 | 64 | 45 |
| Business Services | 18 | ... | 11 | 1 | 24g | 15 |
| Repair Services | 41 | 1 | 99 | 4 | 80g | n |
| Personal, Entertainment and Recreation Service | | | | | | |
| Private households | 9 | 139 | 34 | 98 | 189g | x |
| Hotels and lodging places | 15 | 30 | 51 | 25 | x | x |
| Other personal services | 41 | 23 | 39 | 26 | 251g | 285 |
| Entertainment and recreation services | 38 | 3 | 33 | 7 | 62 | 24 |
| Medical and Other Health Services | 104j | 118j | 23 | 76 | 7h | 140h |
| Educational Services | | | | | | |
| Government | 141k | 28k | 67 | 99 | 90 | 86 |
| Private | x | x | 2 | 8 | ... | 21 |
| Other Professional and Related Services | x | x | 45 | 16 | 84i | 72 |
| Public Administration | x | x | 121 | 40 | 140 | 24 |
| Industry Not Reported | 35 | 14 | 28 | 17 | 26 | 54 |

b - Logging, sawmills and planning mills
c - Includes motor vehicles and access. retail, and filling stations
e - Includes automobile storage and rental
g - Includes both male and female
h - Hospitals only
i - Includes welfare, religious, and non-profit membership organizations
j - Includes all other professional services
k - All government
m - Included in below
n - Included in above
x - Not indicated by source

## APPENDIX C

## SELECTED DATA FROM FOLLOW-UP STUDY OF 1963 GRADUATES AND DROPOUTS

| | Percent |
|---|---|
| 1. Place of residence at time of graduation: | (N=549) |
| On a farm | 24 |
| Rural non-farm | 40 |
| City | 34 |
| 2. County of residence at time of graduation: | (N=549) |
| Antrim | 7 |
| Charlevoix | 25 |
| Cheboygan | 21 |
| Emmet | 26 |
| Otsego | 13 |
| Presque Isle | 6 |
| 3. Present address: | (N=549) |
| Same county as at graduation | 57 |
| Adjacent county to county at graduation | 5 |
| Non-adjacent county, within Michigan | 22 |
| Other state, including military service | 12 |
| 4. Rank in graduating class (scholastic average) | (N=522) |
| Top quartile | 31 |
| Second quartile | 26 |
| Third quartile | 24 |
| Bottom quartile | 20 |

5. When moved after graduation or leaving school:

| | Residence at Graduation | | | |
|---|---|---|---|---|
| | Farm (N=129) | Rural Non-Farm (N=221) | City (N=184) | (N=549) |
| Didn't move | 36 | 35 | 38 | 35 |
| Within one month | 12 | 10 | 9 | 10 |
| 1 - 6 months | 31 | 27 | 32 | 29 |
| 6 - 12 months | 8 | 10 | 6 | 8 |
| One year or more | 9 | 14 | 9 | 11 |

6. Why moved:

| | Residence at Graduation | | | |
|---|---|---|---|---|
| | Farm (N=129) | Rural Non-Farm (N=221) | City (N=184) | (N=549) |
| To take a job | 14 | 12 | 9 | 11 |
| To seek a job | 12 | 8 | 7 | 9 |
| Parents moved | 1 | 4 | 7 | 4 |
| Got married | 9 | 17 | 5 | 11 |
| Military service | 5 | 10 | 11 | 9 |
| Go to school | 27 | 26 | 33 | 28 |
| Other reason(s) | 1 | 3 | 1 | 2 |

7. Post high school education:

| | (N=549) |
|---|---|
| None or not reported | 39 |
| Community college | 8 |
| Four-year college or university | 22 |
| Technical, Trade, Military school, etc. | 21 |

8. Percent attending some kind of post high school education according to county of residence at time of graduation:

| | | |
|---|---|---|
| Antrim | (N=40) | 58 |
| Charlevoix | (N=138) | 69 |
| Cheboygan | (N=114) | 52 |
| Emmet | (N=144) | 63 |
| Otsego | (N=69) | 65 |
| Presque Isle | (N=32) | 54 |

9. Percent attending some kind of post high school education according to place of residence at time of graduation:

| | | |
|---|---|---|
| Farm | (N=129) | 51 |
| Rural non-farm | (N=221) | 58 |
| City | (N=184) | 74 |

10. Course of study for persons enrolled in post high school education programs:

| | (N=549) |
|---|---|
| Four-year programs — | |
| Education | 12 |
| Business | 8 |
| Engineering | 2 |
| Liberal Arts | 9 |
| Other four-year | 8 |
| Two-year or less programs — | |
| Office occupations | 4 |
| Health occupations | 4 |
| Industrial | 1 |
| Other two-year or less | 8 |

| 11. Number full-time jobs since graduation: | (N=549) |
|---|---|
| None | 24 |
| One | 35 |
| Two | 23 |
| Three or more | 12 |

| 12. How long did it take to get your first full-time job: | (N=549) |
|---|---|
| No full-time job | 18 |
| Less than one week | 25 |
| 1 - 2 weeks | 8 |
| 2 - 4 weeks | 8 |
| 1 - 2 months | 12 |
| 4 - 6 months | 3 |
| Longer than 6 months | 14 |

| 13. Reason for taking so long to get full-time job: | (N=549) |
|---|---|
| As soon as expected | 31 |
| No jobs in community | 7 |
| Wasn't interested in jobs available | 3 |
| Parents wanted me to stay at home | 1 |
| Lacked skills or other qualifications for jobs available | 2 |
| Too young | 3 |
| Got married | 3 |
| Went to college | 18 |
| Other reason(s) | 5 |

| 14. Weekly pay before deductions: | First Job (N=549) | Present Job (N=549) |
|---|---|---|
| In military service | 6 | 7 |
| Less than $42.50 | 18 | 8 |
| $42.50 - $62.50 | 27 | 18 |
| $62.50 - $82.50 | 14 | 14 |
| $82.50 - $102.50 | 4 | 7 |
| $102.50 - $122.50 | 2 | 5 |
| $122.50 - $142.50 | 1 | 2 |
| $142.50 or more | 1 | 4 |

| 15. Extent of job satisfaction: | First Job (N=549) | Present Job (N=549) |
|---|---|---|
| Not at all | 6 | 2 |
| Not very well | 7 | 4 |
| Fairly well | 29 | 22 |
| Very well | 30 | 40 |

16. Proportion in various occupational groups:

| | First Job (N=549) | Present Job (N=549) |
|---|---|---|
| Health occupations | 2 | 3 |
| Sales occupations | 7 | 5 |
| Clerical & office occupations | 13 | 15 |
| Electrical, mechanical, trades, etc. | 7 | 7 |
| Food service & preparation occupations | 9 | 4 |
| Agricultural occupations including farming | 4 | 4 |
| Personal service occupations | 4 | 3 |
| General labor | 17 | 15 |
| Miscellaneous | 6 | 6 |

17. Currently enrolled in school:

| | (N=549) |
|---|---|
| No | 56 |
| Yes | 33 |
| No response | 11 |

18. Currently enrolled in school and employed:

| | (N=182) |
|---|---|
| No | 34 |
| Yes, part time | 46 |
| Yes, full time | 15 |

19. Plans for staying in same kind of work as present job:

| | (N=549) |
|---|---|
| Make it a career | 10 |
| At present no plans to change | 25 |
| Probably a few years | 13 |
| Want to change soon | 17 |

20. Interest in taking additional training:

| | (N=549) |
|---|---|
| No for present work | 18 |
| Yes for present work | 20 |
| No for other work | 3 |
| Yes for other work | 30 |

21. Kind of vocational training preferred, if it had been available when in high school:

| | (N=549) |
|---|---|
| Office occupations | 26 |
| Retailing for sales occupations | 9 |
| Food sales & service occupations | 3 |
| Health occupations | 9 |
| Off-farm agricultural occupations | 1 |
| Industrial occupations | 12 |
| Others | 6 |